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BRITISH MUSEUM

Birds of the evening or night, when disturbed during the blaze of day, are no doubt as much out of place as the sloth on the ground, which that field naturalist, Mr. Waterton, has so admirably shown in the 'Wanderings;' among such are the Caprimulgidæ, which may well be called "insect owls." Most readers know of the nightjar's habit of sitting lengthwise on a limb of a tree or rail, and many, I have no doubt, have observed this peculiarity; but, as no two people see with the same eyes, the mean of descriptions given by many will approach nearest a true general view, therefore I have, in these notes, noticed some facts that may appear trifling, but which I hope may be of more use than had I only drawn up a stiff catalogue. I have little to say of the nightjar (*Caprimulgus europæus*), the last of the Insessores, beyond that I shot specimens as early as the 10th of May and as late as the 27th of September, one of which came to this country. There were no peculiarities about the few specimens examined by me, either in size or colour; but I counted the number of stiff hairs or bristles, which was seven on each side of the upper mandible of a female killed in May, which, in all other points, agreed accurately with Yarrell's description. I found a fly, resembling a small horse fly, on this bird, which, I should say, was one of its parasites.

Rasores.—Columbidæ.

I have little to say of the birds of the dove kind: the turtle dove (*Columba turtur*) was numerous during summer and spring. There was another species, which I took for the rock dove (*Columba livia*), which was common, and, I think, bred in the high cliffs of the Chersonese; there were also numbers about the same situations during winter. This bird, although I obtained a specimen in Bulgaria, which I preserved, I placed among the doubtful birds of the Crimea; since doing so, however, I have seen in the 'Zoologist' (Zool. 5353), a "List of Birds observed in the Crimea," by Lieut. Irby, in which is included this bird and also Columba palumbus, but, as it appears that specimens of neither were brought to this country, I do not feel justified in advancing them to the true list. Those, of course, who commenced to read these notes must also have observed the note to the pheasant in the list above mentioned, which states that it is probably found in the Crimea; however, I have made all inquiries, and cannot find of its having been observed in a single instance, and therefore I cannot even include it among the doubtful; and I think that it could not have been Lieut. Irby's intention that the list should be taken as positive information, because, having corresponded with him on the subject, he has kindly given me information concerning those which neither Dr. William Carte nor myself had observed, which, in many cases, was only what he had been told by others who had killed or only seen the birds; there were also a number of others which he observed, but of which he did not obtain specimens, and therefore I say that, although Lieut. Irby's list contains much valuable information, still all the birds included in it cannot be taken as certain, so that, in drawing up my notes, I can notice those only which appear well authenticated.

Tetraonidæ.

Now, although I have on many occasions, while in the Crimea, observed what I considered was the partridge (*Perdix cinerea*), and moreover have been told by many that they had shot this bird, yet I would not stake my life upon the fact of its being an inhabitant of the Crimea, for fear that the bird which I had observed, and of which numbers were shot by casual observers at Kertch, might be only a closely allied species, and therefore I could not include it in the true list without having closely examined and compared specimens.

I was told by a friend of mine that, in April, he saw a Frenchman with some redlegged partridges, which he said that he had shot near the Mackenzie Heights. Of course I am in doubt as to which of several species this was, but Lieut. Irby says that he is certain of Perdix rubra.

I heard that several officers had observed what were said to be sand grouse on the plains to the north of Sebastopol, and in "Russia, on the shores of the Black Sea and Sea of Azof," Seymour says that "the 'Streppet,' of larger size and lighter hue than the grouse, the only English bird to which it can be compared," is to be met with on the "steppes of the Crimea in numbers." What can this be?

The quail (*Perdix coturnix*) is but a passing visitor to the southern extremity of the Crimea, although some may remain to breed on the plains in the interior. In August the flights of cranes drew my attention to migration, and happening to think of the quail I was ever on the look-out for their arrival from the north, and the first I observed was on the 13th of September, when one flew past me, but at the time I was not aware what it was; however, my doubts were cleared up the next morning, by my putting up a couple within a few yards of my tent; I therefore started off with my gun, and soon procured two couple: all I found rose singly from almost under my feet, some on the open, stony ground, and others from bushes. I never chanced to get any very good shooting at the quail, owing to not having a dog, and the difficulty of procuring shot. An officer who had a dog, I believe bagged twenty-two couple, in about four hours, near Balaclava. The old vineyards were favourite resorts of these birds. They continued numerous until the end of September. The first which I heard of in the spring was on the 25th of April; I shot one, which I preserved, in the beginning of May, and I observed them in pairs at the end of the month, on the plains to the north of Sebastopol; they were not observed in numbers as in autumn.

I now come to the bustards, birds which British naturalists so seldom see in the wild state. I expect that both the great bustard (*Otis tarda*) and the little bustard (*Otis tetrax*), breed on the steppes of the Crimea, for I heard of the former being seen as late as the beginning of May, and I myself saw the latter at the end of that month; in the one day, however, I only saw one pair, all the others being single birds. All who were in the camp near Sebastopol during the cold weather, towards the end of the year 1855, will remember the enormous flight of bustards which passed over: they usually flew high up in the air, and, seen from the ground, they appeared quite white. Many were killed by Minie bullets fired up at them, and others when they alighted on the hills about Balaclava; they were observed first on the 19th of December, and continued flying over in great numbers for three days. The country being covered with snow, together with the presence of the army, will account for so few alighting in the Chersonese, which Seymour describes as a great resort for them during winter, when the plains to the north are covered with snow, and that they used to be a cheap and favourite article of food in Sebastopol. On arriving at Balaclava, after a bad passage from the Bosphorus, on the 21st of December, I observed these birds, which appeared to be all, or nearly all, flying over high in great numbers from the north, but there had been many more the day previous. Whether they crossed the Euxine to Asia Minor I cannot say, but the greater part steered away towards the south coast beyond Cape Aia. I saw a couple that day, which weighed about 16½ lbs. each, and I heard of one which came into the possession of the renowned Mrs. Seacole, which was said to weigh 22 lbs., and another I was told of only came up to 13¼ lbs.: they were thought by many at first to be turkeys. A break up in the weather occurred shortly after this; and afterwards a few were occasionally observed of the large species. The little bustard was not nearly so plentiful; they were occasionally shot during winter and spring until near the end of April, and I examined some specimens minutely. Some of each kind came to England.

THOMAS BLAKISTON.

Camp, Woolwich, February 21, 1857.

Erratum.—For "great sedge warbler (*Sylvia turdoides*)" (Zool. 5504), read "thrush warbler (*Sylvia Philomela*)."

Birds of Andalusia. By CAPTAIN CHARLES W. WATKINS.

Redstart (*Sylvia phœnicurus*). Arrived in the spring and remained to breed.

Black Redstart (*Sylvia tithys*). I observed this bird on two or three occasions just outside the Spanish lines, during the winter months, but it entirely disappeared about April.

Stonechat (*Sylvia rubicola*). Very numerous, and remains during the whole year, breeding very early in the spring. I have seen the young birds able to fly well early in May.

Blackcap (*Sylvia atricapilla*). I occasionally observed this beautiful warbler, but it was, I consider, rare. I do not think it winters in the province: I first observed it in March.

Nightingale (*Sylvia luscinia*). I have observed before; particularly numerous, arriving in spring.

Chiffchaff (*Sylvia rufa*). Heard for the first time on the 28th of February, early in the morning, when coming off guard. I concluded it had just arrived, but it appears I was wrong, as Don Aulorico Macleado says it is very common, and remains in the province during the whole year.

Wheatear (*Sylvia œnanthe*). Arrives in March in considerable numbers, and remains to breed.

Black Wheatear (*Saxicola leucura*). Arrived about the same time as the former, and remained to breed: I never observed it in any numbers, although it was by no means rare, frequenting rocky mountain-sides, and being difficult of approach: when disturbed it took long flights.

White Wagtail (*Motacilla alba*). This species was very plentiful during the winter, particularly on the sands at low water, on the road to St. Roque. I never observed it after the hot weather commenced, and feel satisfied myself that it migrated during the summer months, although the same authority quoted before says it is a constant resident in the province, but adds that it returns to the mountains and other cool places during the heat of summer; but as the heat and drought on the mountains in summer is extreme, every stream being dried up, I should think the bird must seek more suitable quarters than an arid mountain. I do not of course mean to state positively that the bird migrates, but simply that such is my impression.

Gray Wagtail (*Motacilla boarula*). Arrived and took its departure with M. alba.

Of the Paridæ I observed three, the blue titmouse (*Parus cæruleus*), great titmouse (*Parus major*) and the cole titmouse (*Parus ater*); the latter by no means numerous, the two former abundant.

Meadow Pipit (*Anthus pratensis*). Occasionally met with.

Skylark (*Alauda arvensis*). Very common, congregating in large flocks during winter, as in this country.

Crested Lark (*Alauda cristata*). Was also numerous.

Calandra Lark (*Alauda calandra*). Arrived in spring, and remained to breed; it was very numerous.

Common Bunting (*Emberiza miliaria*). Very abundant, more so, however, towards spring, from which I conclude that it is partially migratory.

Chaffinch (*Fringilla cœlebs*). Common, and very numerous everywhere.

House Sparrow (*Fringilla domestica*). Common, and as fond of and confiding in man as its family is in this country.

Greenfinch (*Fringilla chloris*). Very plentiful in the spring; occasionally seen during the winter. I fancy that many of the birds of this province, although not wholly migratory, cross the Straits of Gibraltar in winter (which would not take more than a quarter of an hour at most), and thus enable themselves to enjoy whatever climate they like: by travelling a few hundred miles they can enjoy the snows of Algeria or the burning suns of the interior. Immense numbers of these birds are taken annually with bird-lime, with the goldfinch (*Fringilla carduelis*) and siskin (*Fringilla spinus*), and exposed for sale in the shops of Gibraltar, the Spaniards being extremely fond of pets, almost every house having one or other of these birds hanging in a cage outside the window.

Linnet (*Fringilla cannabina*). Plentiful during the spring, when it is gregarious.

Wryneck (*Yunx torquilla*). I saw this bird, for the first time, exposed for sale in the Gibraltar market, together with numbers of greenfinches and other small birds. Almost every kind of bird seems to be considered good eating in Spain, and perpetually in season, if one may judge from appearances. I saw, at the latter end of May, quails, turtle doves and partridges (although they must then have been in the midst of their domestic duties) exposed for sale in the market of Cadiz, in considerable numbers.

Cuckoo (*Cuculus canorus*). Arrived in early spring, and plentiful.

Great Spotted Cuckoo (*Cuculus glandarius*). Plentiful, but not migratory, I believe.

Swallow (*Hirundo rustica*). A few of these birds winter on the Rock of Gibraltar and its immediate vicinity (I have seen them continually on the wing throughout the winter). The main flight arrives early in March, and immediately commence nesting, building in great numbers inside the numerous "ventas," and being much pelted by the inmates. Early in April I saw nests with young in them.

Martin (*Hirundo riparia*). Also winters in small numbers on the Rock. The spring flight arrives about the same time as the swallow, and breed in great numbers on the Mediterranean side of the Rock.

Swift (*Cypselus apus*). This bird arrives much later than the two former, but in immense numbers; they remain about the Rock the whole summer, leaving about November. It is most amusing to watch these birds; immense flocks of them chasing each other round the house-tops, and screaming to such an extent as at times to drown all other sounds.

Whitebellied Swift (*Cypselus alpinus*). Arrives about the same time as the former, but is rare. I only saw a few pair, and always about the higher parts of the Rock. What appeared to me strange was that from their first arrival I always saw them in pairs.

Of the Columbidæ I observed three varieties, the rock dove (*Columba livia*), which was very numerous, breeding in the caves on the eastern side of the Rock; the ring dove (*Columba palumbus*), which was very plentiful in the cork-wood in spring (although only occasionally seen in winter), and breeds there; and the beautiful little turtle dove (*Columba turtur*), which arrived early in April, and remained during the summer for breeding: great numbers of them are shot on their arrival, and sold in the markets, they being much esteemed for the table.

Redlegged Partridge (*Perdix rubra*). Plentiful. I am inclined to believe that this is the only species of red-leg found in this part of Spain. I diligently searched the markets for the Barbary partridge, but without success, although great nnmbers of the common red-leg were always to be found for sale, and if any other species had been in the province I think they would occasionally have graced the dealer's stall.

Quail (*Perdix coturnix*). Very numerous in September, when the "Intrada" (as termed by the Spaniards) arrives: a few remain during winter, but the majority, by the end of October, are either killed or have passed on their journey. A few breed in the country.

Andalusian Quail (*Hemipodius tachydromus*). Frequently met with, but by no means numerous, seldom finding more than two or three together: I only shot six or seven during the whole season. They may possibly be more numerous than they appear to be, from the difficulty of finding them, as they delight in rocky mountain-sides, among palmetto bushes.

Sand Grouse (*Pterocles arenarius*). Common, as I learned from Fevier, of Tangier, in the South of Spain; also very numerous in North Africa, from which locality I possess a specimen.

The Great Bustard (*Otis tarda*) and Little Bustard (*Otis tetrax*) are still numerous (or said to be so) in many parts of the province. I never had the good fortune to meet with one.

Stone Curlew (*Œdicnemus crepitans*). Occasionally met with.

Golden Plover (*Charadrius pluvialis*). Seen in small flocks during the winter, but only occasionally.

Ringed Plover (*Charadrius hiaticula*) and Little Ringed Plover (*Charadrius minor*). Were both numerous, and breed in the salt marshes. I saw some young of the former as early as May; they were unable to fly, but ran on the sand with amazing rapidity: I caught one, and the old bird, which at first did all in her power to mislead me by feigning lameness, &c., on my capturing her offspring, flew round me so closely as almost to touch me: after I had satisfied my curiosity in examining the downy little creature I released it, much to the joy of the parent. I may add that I only saw one old bird with the young ones, two or three in number.

Lapwing (*Vanellus cristatus*). Common during the winter.

Heron (*Ardea cinerea*). Common in the marshes round the Cartrian Hills, during the winter; as also was the bittern (*Ardea stellaris*).

The Squacco Heron (*Ardea ralloides*) and Night Heron (*Nycticorax ardeola*) are both to be met with in the country. I obtained fine specimens of each, killed on the African side of the Straits.

Curlew (*Numenius arquata*). Common during the winter, as also the redshank (*Totanus calidris*).

Woodcock (*Scolopax rusticola*), Common Snipe (*Scolopax gallinago*), and Jack Snipe (*Scolopax gallinula*), were all met with, at times plentifully, during the winter.

Spotted Crake (*Gallinula porzana*). This elegant bird was very numerous in the marshes in winter.

Water Rail (*Rallus aquaticus*). Frequently met with, but not so numerous as the former.

Red Flamingo (*Phœnicopterus roseus*). Flocks of from ten to twenty of this magnificent (and in Barbary still sacred) bird cross the Straits in spring. I obtained two very fine specimens, beautifully shaded with red on the neck and breast, being, I conclude, old males in full plumage. In Barbary it is quite as much as a man's life is worth to shoot either a flamingo or stork.

Charles W. Watkins.

Budby House, near Daventry,
March 26, 1857.

Occurrence of the Butterfly Blenny (Blennius ocellaris) *in Weymouth Bay.*—This pretty fish was formerly, and until the severe winter some three or four years since, tolerably plentiful in this bay; since then it has totally disappeared: I have the last week, however, obtained two specimens. I hope we shall have them again plentiful. —*William Thompson; Weymouth, February* 22, 1857.

The Blackbellied Flounder.—Yesterday I obtained two specimens of the Platessa melanogaster? considerably larger than any I have previously seen. The same characters, described by me in the 'Zoologist' (Zool. 4596), are again present. I have examined the notch carefully with a powerful lens, and cannot detect the smallest sign of a cicatrix, which assuredly would exist if the notch had been artificially formed. — *Edmund Thomas Higgins;* 1, *Brook Terrace, Birkenhead, March* 11, 1857.

Occurrence of the Little Gurnard on the Coast of Lancashire.—On the 7th of August, 1856, while staying on the shores of Morecombe Bay, I obtained a small fish which corresponded in many points with the description given by Mr. Yarrell of the little gurnard; it was not much more than an inch in length, and was captured by some shrimpers whom I noticed working with hand-nets in shallow water, as the tide was coming in. I kept it alive for several hours in a vase of sea-water, and before death the colours were very brilliant, but after being immersed in spirits of wine they rapidly faded. I neglected to note down the tints at the time, and did not happen to have Yarrell's work with me, but on looking over his description, after my return home, the colours appeared to correspond with it: I could not find, however, the white spots mentioned by him on the inner surface of the pectoral fins. The form and arming of the head resemble those of the figure given in his work. As I have but little knowledge of Ichthyology, I forward the specimen with this notice, and shall be obliged if the learned editor of the 'Zoologist' will give his opinion regarding the species to which it belongs: should my surmise turn out to be correct, and it prove to be the Trigla pœciloptera of Cuvier and Valenciennes, its capture will be worth recording, as at the date of the publication of Mr. Yarrell's second edition of the 'British Fishes' it had only once been noticed on the shores of the British islands, *viz.* at Youghal, in Ireland, in the year 1815, and I am not aware that there is any record of its appearance since.—*R. H. Meade; Bradford.*

[As Mr. Meade wishes for my opinion on this little fish I am quite willing to give it, but I cannot think it of much value, seeing that no British specimen of the same species is accessible for comparison: the colour described by Yarrell has entirely vanished,—there remains not a trace; the armature of the head is figured but not described by Yarrell, and the specimen placed in my hands agrees sufficiently well with the figure to induce a belief in the identity of the species. It should be observed, however, that the figure is not made from the only British specimen ever recorded, but is copied from a drawing sent to Mr. Yarrell by M. Valenciennes.—*Edward Newman.*]

The Carp at Charlottenburg.—In the large fish-pond of the Royal Park of Charlottenburg, near Berlin, are some immense carp (*Cyprinus carpio*), which are celebrated throughout Germany. These fishes are great favourites with the Berliners, who flock to this and similar places on Sundays and holidays, generally taking a supply of bread and biscuit for the purpose of deriving amusement from watching the huge creatures rolling over one another in their endeavours to catch the food. The fishes usually collect in certain spots which are easily accessible to the people, who throw to them pieces of bread half the size of the fist: these morsels are too large to be readily gorged, and the sight of the wide mouths vainly endeavouring to seize the food, together with the frequent appearance of a "back like a saw," affords high amusement to the spectators. The keepers assert these fishes to be of a great age, none less than fifty or sixty years, while they will not hesitate to assure you that some patriarchs of the pond have completed their second century, in confirmation of which they point to their backs, which often present an appearance not unlike the growth of Achyla prolifera, that Conferva so inimical to piscine longevity. This is commonly believed by the populace to be moss, and the presence and abundance of it to be indicative of age; so that it is not uncommon when an extra large fish, with an unusual amount of this wavy confervoid-looking substance on his back, appears, to hear the wondering exclamation, "Look now, at the moss on his back! What an old fish he must be!" followed by speculations as to the number of half-centuries the venerable monster may have attained. In more than one place a bell is hung, which, if it ever were used to call the fish to dinner, is certainly superfluous now, for no restriction is placed upon the ringing of it, and it may be heard at all hours, particularly on holidays, when dinner-time is all day long, and the bell accordingly rings from morning till night.—*Cuthbert Collingwood; Blackheath Park.*

Notes on the Oxfordshire Shells. By the Rev. ALFRED MERLE NORMAN, B.A.

(Continued from page 4129.)

SINCE the publication of my "Notes on the Oxfordshire Shells" in the 'Zoologist' for 1853 (Zool. 3764, 4126), I have only spent about three weeks in the county, and therefore have had little opportunity of adding to my list personally. Mr. J. F. Whiteaves, however, has during the last three years given much time and trouble to thoroughly examining the neighbourhood of Oxford, with regard to its Conchology; he has consequently met with much success, and added many interesting species to the local Fauna. While at Oxford, during the autumn of 1855, I had the pleasure of visiting, with Mr. Whiteaves, two of the spots he had found most productive, namely, Stow Wood and Woodeaton: on those occasions I took alive many mollusks I had not before met with in the county, but they are Mr. Whiteaves' discoveries, not my own.

Mr. Whiteaves has lately read before the Ashmolean Society an interesting paper, embodying all that has been done by himself and others: this paper ("On the Land and Freshwater Mollusca inhabiting the Neighbourhood of Oxford") has just been published in the Society's 'Transactions,' and, with Mr. Whiteaves' leave and wish, I shall make a few extracts from it.

Mr. Stretch has sent to the 'Zoologist' (Zool. 4540) a catalogue of the shells which have been met with in and around Banbury.

In the 'Naturalist' for 1855 (vol. v. 200) there is also to be found a list of shells found near Oxford by "J. D." [J. Dalton]. Mr. Dalton collected in company with Mr. Whiteaves, and all that is contained in "J. D.'s" notes is repeated in the fuller catalogue of Mr. Whiteaves.

The Rev. A. Matthews has recently given a few shells to me, which were collected by himself some years since at Weston-on-the-Green; and in this fresh part of Oxfordshire shells thus turn up which have either not occurred at all or are rare in those portions of the county previously examined.

Since I am about to mention what others, rather than myself, have done, I shall refer to the Mollusca previously alluded to (Zool. 4128) as having been found at Henley-on-Thames by Mr. Hugh E. Strickland (Loudon's 'Mag. of Nat. Hist.' vol. viii. 494).

For the sake of uniformity I continue to use the nomenclature of Gray's 'Turton's Manual.'

Valvata cristata. I have met with this species in the brook that runs at the foot of Woodeaton Hill, as I have already casually mentioned in another paper. "Occasionally met with in peaty ditches with Valvata piscinalis; it has a much wider distribution, but is scarcer. As localities I may cite Yarnton, near Summertown, and near Watereaton," *Whiteaves*. It also is to be found in Mr. Stretch's list.

Limax carinatus. Among the Limaces which were given me by Mr. Matthews there were two or three undoubted shells of this slug.

Helix fusca. "Fawley Woods; very rare," *Strickland*.

„ aculeata. "Moss and fir leaves, Fawley Woods," *Strickland*. When at Oxford I took two or three specimens at the outskirts of Stow Wood, among moss, it having been previously taken there by Mr. Whiteaves. Another locality is Weston-on-the-Green, where Mr. Matthews informs me it was not uncommon. A fourth is Banbury, *Stretch*.

Zonites umbilicatus. Abundant at Woodeaton and on many old walls round Oxford. Specimens occur among the Weston-on-the-Green shells. Banbury, *Stretch.*

Zonites pygmæus. There is an old ivy-covered wall surrounding the grounds of a house at Woodeaton, of which, however, I neither know the name nor the owner; among the decaying leaves in the interstices between the stones of this wall Z. pygmæus may sparingly be found, together with many other good shells. Mr. Strickland records it as found at Henley among "roots of grass and wet leaves." Banbury, *Stretch.*

Pupa umbilicata. Woodeaton. "Common on old walls, perhaps most abundant where Sedum acre grows. In profusion on an old wall at Ferry Hincksey," *Whiteaves.* Banbury, *Stretch.*

Vertigo edentula. This has been taken by Mr. Whiteaves and myself at the outskirts of Stow Wood. From the proportionate number of specimens of this species which occur among the Weston-on-the-Green shells, it would seem to be not uncommon in that neighbourhood. "Under stones, Henley Park," *Strickland.*

„ palustris. I am glad to be able to add this species to the Oxfordshire list, having found it among the shells collected at Weston-on-the-Green by Mr. Matthews.

„ pusilla. Abundant among the decaying leaves on the old ivy-covered wall at Woodeaton. Banbury, *Stretch.*

Balæa perversa. "Thames rejectamenta," *Strickland.* "Found under the bark of old pollard willows, generally huddled together in a mass. It is also sometimes taken on old walls," *Whiteaves.* "Sibford and Astrup," *Stretch.*

Clausilia dubia. "I have met with two or three specimens of this shell on the road between Elsfield and Stow Wood," *Whiteaves.*

Azeca tridens. "Roots of dog's mercury, Pinning Bottom in Fawley Wood," *Strickland.* "I have taken one dead specimen of this shell at Headington Quarry," *Whiteaves.*

Acme fusca. "I have taken one living example of this rare shell in a mossy bank near Stow Wood, but have repeatedly failed to meet with more specimens," *Whiteaves.* "In moss, at Pinning Hill, Fawley Woods; very rare," *Strickland.*

Limnæus glaber. "Very rare; I took two specimens from a trench near Kennington, in which there were no plants growing, but which was full of the decaying leaves of the elm. This trench has since been cleaned out, and the species is apparently lost," *Whiteaves.*

Amphipeplea glutinosa. "Mr. Miller * * abundant near Oxford * * ditches:" among my manuscript notes I find these words, copied from some author, but I cannot recal to mind from whom they came. Mr. Whiteaves also says of this beautiful shell, "Very rare. I have taken one fine specimen from a clear brook communicating with the river, on the right hand side of the path between the Railway Lake and South Hincksey. Mr. Baxter has informed me that the late Mr. Miller, of Bristol, found it at Godstow. I have repeatedly searched for it there, but have always failed to find it."

Planorbis imbricatus. Many specimens among the Weston-on-the-Green shells. Mr. Strickland met with this species in a pond near Henley.

„ lævis. Mr. Stretch's list. I wrote to Mr. Stretch to inquire about this and two or three other species: he tells me that "the specimens were collected some years ago by a friend in the town; he believes them to be what they are called, but has not met with them himself," *Stretch in litt.*

Cyclas lacustris (C. caliculata, *Drap.*). Weston-on-the-Green; among Mr. Matthews' shells. "Ponds at Fawley," *Strickland.* Hanwell, *Stretch.* "Very local; found abundantly in a railway lake at Wolvercot, chiefly at one end, which is choked up with a profuse growth of Ceratophyllum demersum. It also occurs in peaty pools near Headington Wick Copse, in which the prevailing plant is Chara hispida," *Whiteaves.*

Pisidium obtusale. "A stream at Botley," *Whiteaves.*

„ pulchellum. Specimens from Weston-on-the-Green; and I also took a few in the Woodeaton Brook. "Not uncommon in gravelly ditches. A good locality for it is a ditch near Cowley, in which Samolus Valerandi grows," *Whiteaves.*

„ nitidum. "Very rare. I have taken two specimens from a ditch near Summertown, communicating with the Cherwell, in which Ranunculus lingua and Utricularia vulgaris grow," *Whiteaves.* Mr. Stretch informs me that this Pisidium was inserted in his list of Banbury shells by mistake, as was also Pisidium cinereum, *vide* "Correction of an Error" (Zool. 4635).

A few words must be said respecting Unio pictorum, which is contained in the catalogues of Mr. Strickland and Mr. Stretch. Mr. Whiteaves says, in reference to Unio tumidus, "Both Mr. Strickland and Mr. Stretch have mistaken this for Unio pictorum." I do not know the grounds on which Mr. Whiteaves bases this positive assertion: the following reasons have, however, always led me to think that such a mistake may have been made:—1st. Neither of these two lists contain Unio tumidus, which is certainly common in the rivers Isis, Thames and Cherwell, in suitable localities, apparently throughout their whole length; in the place of Unio tumidus we find Unio pictorum inserted, which I have never seen in Oxfordshire. 2ndly. Specimens of Unio tumidus were, until quite recently, in the Ashmolean Museum labelled pictorum. 3rdly. I have repeatedly known these two species mistaken the one for the other.

As Pisidium is a critical and extremely difficult genus, I think the following extract from a letter of Mr. Whiteaves of value; it was in answer to a request that he would kindly send me specimens of those species I had not myself taken in Oxfordshire:—"The Pisidia are in the possession of my friend Mr. Dalton, with whom I collected them, and were named by Mr. Jeffreys, to whom he sent them. Obtusale is, however, on Mr. Pickering's authority."

These additions to the Oxfordshire Mollusca make this the fullest local catalogue published.

Alfred Merle Norman.

Kibworth, Leicestershire.

Observations on the Mollusca to be found on the Coasts of Cornwall.

By William F. Templer, Esq.

Psammobia tellinella. Single valves. Port Curno Cove, near Penzance.

„ costulata. Single valves. Port Curno Cove.

Tellina pygmæa. Whitesand Bay and Port Curno Cove.

„ incarnata. Pentewan Bay, by dredge, *Fowler*.

Syndosmya alba. Mount's Bay, Penzance, by dredge.

Ervilia castanea. Single valves. Whitesand Bay and Port Curno Cove.

Mactra helvacea. This fine shell may at times, after rough weather, be found on the Hayle Sands.

Cytherea Chione. Hayle Sands. They have much lustre and depth of colour.

Tapes aurea. Very frequent in Falmouth Harbour and at Helford river, where the shells are more produced in shape and more elegantly marbled than the ordinary run of specimens. At times on the Hayle Sands, *Millett*.

Lucinopsis undata. Hayle Sands, *Millett*.

Lucina borealis. Fine specimens, but without the mollusk, are at times abundant on the Hayle Sands.

Turtonia minuta. Not uncommon, among the small sea-weeds, between tide-marks at Mousehole, near Penzance, and the Land's End.

Pisidium obtusale. Ponds, Chyan Hall Moor, near Penzance.

„ pusillum. Near Penzance.

Crenella costulata. Long Rocks and St. Michael's Mount, Penzance, and Mousehole.

Nucula nucleus. Mount's Bay, Penzance, by dredge.

Pectunculus Glycimeris. At times on the Hayle Sands, *Millett.*

Chiton cinereus. Penzance.

Patella pellucida. Attached to Chondrus mamillosus, near low-water mark, Mousehole, near Penzance, and to stalks of Laminaria digitata, St. Michael's Mount.

Acmæa virginea. Near low-water mark, Battery Rocks and Long Rocks, Penzance.

Dentalium tarentinum. Sandy ground, three or four miles from shore, Mount's Bay.

Fissurella reticulata. Whitesand Bay, near the Land's End, and Port Curno Cove.

Trochus zizyphinus. Penzance and Mousehole.

Phasianella pullus. Fine and not uncommon, feeding on Chondrus mamillosus, obtainable at low-water spring tides at Mousehole.

Ianthina communis. Has been found at Whitesand Bay, near the Land's End, Hayle Sands, St. Ives Bay and Bude Haven.

Rissoa punctura. Tolerably plentiful among shell sand, Whitesand Bay, near the Land's End.

„ striata. Abundant in sea-weeds at Penzance and the Land's End.

„ parva. Most abundant in the small sea-weeds, Mousehole and other places at Penzance, also at the Land's End.

„ semistriata. In June, 1853, I found a few beneath stones, St. Clement's Isle, near Penzance, but they were not abundant.

„ rubra. Mousehole, near Penzance, and the Land's End in sea-weed.

„ fulgida. Sea-weeds, Mousehole, near Penzance.

Jeffreysia diaphana. Sea-weeds, Mousehole, near Penzance.

Skenea planorbis. Abundant in the small sea-weeds, Mousehole, near Penzance, and the Land's End.

„ rota. Mousehole, near Penzance.

Cerithium reticulatum. Penzance and the Land's End.

„ adversum. St. Clement's Isle, near Penzance; sea-weeds, Penzance and the Land's End.

Aclis unica. From a sponge, Hayle Sands.

Odostomia plicata. Beneath stones amongst Serpula, Penzance.

„ rissoides. Beneath stones amongst Serpula, Penzance.

„ cylindrica. Mousehole, near Penzance, amongst the smaller Algæ.

Lachesis minima. Sea-weeds, Penzance; not common.

Nassa incrassata. Rock pools, among Algæ, Penzance.

Mangelia linearis. Beneath stones, between tide-marks, Penzance.

„ costata. Rock-pools, Penzance.

Cylichna truncata. Sea-weeds, Penzance, and much finer at the Land's End.

„ obtusa. Sea-weeds, Penzance.

Amphisphyra hyalina. Sea-weeds, Penzance.

Philine scabra. Mount's Bay, about a mile from shore, in mud-sand, by dredge.

Aplysia hybrida. Penzance, Mousehole and the Land's End.

PULMONIFEROUS MOLLUSCA.

Helix arbustorum. Penzance, *Millett.*

„ pisana. St. Ives, feeding on the Eryngium maritimum, *Millett.*

„ revelata. Land's End, *Millett.*

Bulimus acutus. On the sand-hills, Bude Haven.

Balea fragilis. On walls, St. Michael's Mount.

Planorbis vortex. Abundant, about Lennen, near the Land's End.

Lymnæus glaber. Very abundant in ponds about Lennen Church, near the Land's End.

Conovulus denticulatus. Near Penzance, *Millett.*

WILLIAM F. TEMPLER.

Charmouth, Dorset, April 5, 1857.

Notes on the Habits of the Nipper Crab (Polybius Henslowii).—The nipper crab is in captivity by far the most amusing of British Crustaceans; and as, when kept a little moistened, it will long survive its capture, it is in the power of an observer to study its habits with greater certainty than we can those of the larger portion of its fellows: with a little attention it is probable it might even be sent a long distance without injury; and, confined in a tank, it does not require such frequent renewals of water as other species. The following notes, which are written from frequent observation, are intended to form a supplement to the more extended remarks on the habits of this crab (Zool. 5531). The nipper crab is most frequently caught in the summer and autumn; but I have a note of one which was taken entangled in the drift-nets employed in the mackerel fishery, in the first week of April. It keeps for the most part in the deeper water of the channel; and a remark of Mr. Johns, in his book 'A Week at the Lizard,' is not a contradiction to this, when we consider how far this most southern point of land in all England projects into the ocean: he mentions having seen this crab swimming there at the surface, and that he enticed it to his boat with a bait. All that I have seen, however, have been caught at a good distance from land, in the drift-nets employed for mackerel or pilchards, and in confirmation of the remark already made all have been males. I am informed, however, that a female has been caught, but not under the same circumstances with the males, in comparison with which most of its habits appear to be different. As the nets are hauled into the boats for the most part by night or very early in the morning, these crabs are taken on board with them, and they will often remain thus wrapped up in the wet twine with little harm for many hours. Transferred to a tank, it immediately shows signs of its agility, by darting round its prison with the activity of a fish, nor does it sink to the bottom until the discovery is made that this great exertion of energy is in vain. It is this power of active motion which has obtained it a local name in the West of Cornwall, where, as crabs in general are termed "cankers," this species is distinguished by the name of "flying canker." In confinement it is very vigilant, and, like the other swimming crabs (*Portuni*) shows a readiness to defend itself against threatened danger: its nipper claws are then held aloft, and it seized a hand that was pointed against it, holding it fast with great tenacity. When engaged in swimming the claw-legs are held extended in a straight direction, above the level of the carapace, and the intermediate legs are rowed like oars; but the hinder legs are lifted above the level of the back, and bent forward over it, their flattened extremities being engaged in very rapid motion. On close examination those hindmost legs are found to be capable of very free and extensive bending forward over the carapace; but the motion is in two portions chiefly or only: one of those is at the insertion of the coxa, by which the limb is permitted to be thrown up over the carapace towards its outer border, but it is checked in other directions: the other and more active motion is in the two outer joints, which are more especially the propelling oars; their action is in the plane of their compression, and they have a point of support in the two middle phalanges, which move but little, and which, from their more rounded form, contain a larger bulk of muscle. Thus the outer phalanx of this hinder and chief propelling leg is very broad, with a narrow hinge, and admits only of extension to a right line and bending inward: the next or penultimate joint is limited to rotation only, or at least with very little power of extension or bending; and then again the next inward is moved by extension or bending only, and very little by rotation. The coxæ of all the legs allow of free and extensive motion. It clearly prefers to feed on living prey: when a living fish was placed in the tank the crab gave chase, and soon seized it with both its claws, killed it, devoured the belly and lower part of the head, but, perhaps being satisfied, rejected the rest. It took a fly that chanced to alight on the water, but lived in peace with a Montagu's sucker for several days, although this fish was also its prey at last. It fed on a dead fish that was thrown to it and lay at the bottom of the tank; but the death of the individual was probably owing to some dead fish which it did not eat, and which lay for a little while in the water. It appears to remain at the surface only by the energy of its powers of swimming, for no organs of suspension beside the legs have been discovered, and its absolute weight is not less than that of a common harbour crab (*Carcinus Manas*) of the same dimensions: when fatigued, therefore, it descended to the bottom; but I conclude it will readily use any floating substance to relieve its swimming powers and prevent the necessity of sinking, for when a stone was placed in the tank it mounted to where it nearly touched the surface, and when the shannies (*Pholes*) in the tank attempted to get on it, the crab repeatedly drove them away: it was, however, quite alive to the danger of its position, and when it perceived itself observed, presently left its lofty rock. For a considerable time the sea-water in which this crab was preserved maintained its sweetness without taint,—longer, it was supposed, than under ordinary circumstances; but the presence of a dead fish was fatal in a very few hours.—*Jonathan Couch; Polperro.*

Description of a new British Species of Shrimp.—This hitherto undescribed species of Crangon is clearly allied to the common shrimp (*C. vulgaris*, Fab.), differing in one or two well marked characters, as the following description shows:—

CRANGON ALLMANNI.

Specific characters:—Carapace smooth, armed with three spines, one on the median gastric region and one on each branchial region; the sixth segment of the abdomen is deeply channelled above through a well-marked carina which borders it on each side; the seventh segment is also channelled. The anterior pair of legs are moderate in length, the arm smooth, and entirely free from spine or tooth; the second pair of legs are slender, and slightly longer than the third; the external footgerms are similar to those of C. vulgaris, but their superior articulation slightly more elongated; the rostrum is triangular and longer in proportion than in C. vulgaris. The sternal spine is very short in the males and altogether absent in the females; each segment of the abdomen is, however, armed with a short spine between the origin of abdominal false feet. The external antennæ, the antennal scales, the external natatory plates of the tail all resemble C. vulgaris; the middle plate is more acuminate than in that species, and armed with twelve teeth, *viz.* four lateral, two inferior terminal, and six terminal. The length of my specimens vary from 0·5 inch to 3 inches. Colour bluish gray, with golden, black and red dots scattered through it.

The most obvious characters which distinguish this from all described species are the sulcate, sixth and seventh segments of the abdomen, the smooth arm and the three-spined carapace: it is an interesting species, as containing the characters of two distinct types, *viz.* C. sculptus and C. vulgaris. It has occurred to me first in December, 1856, in fishermen's boats along with C. sculptus, C. vulgaris, Hippolyte Cranchii, H. Thompsoni, H. varians, and some of the lesser Paguridæ; on a subsequent occasion, in February, I dredged a female loaded with ova in twenty-five fathoms off the coast of Wicklow. It appears to be a plentiful species: six specimens occurred in the first instance. The species must be local, as it is too remarkable in its appearance to have been lightly passed over if observed elsewhere. In selecting a specific name for it, I have taken that of an Irish naturalist, to whose labours, in every branch of Zoology, Irish Natural History is indebted for many and valuable additions, George James Allman, M.D., Professor of Natural History, Edinburgh.—*John Robert Kinahan; Donnybrook, Dublin, March*, 1857.

Sketch of a short Arachnological Excursion.

By R. H. Meade, F.R.C.S.

Having, during the summer of 1856, made a short arachnological excursion into Oxfordshire, I have drawn up a list of the spiders which I captured there, together with a few observations respecting their habits and haunts, in the hope that they may not be devoid of interest to some of the readers of the 'Zoologist.' The locality which I visited was a quiet rural district, situated midway between Buckingham and Bicester, just within the borders of Oxfordshire. The country around is thickly wooded, and the geological formation the great oolite.

I left home by the mail train on the evening of June 23rd. The previous few days had been dull and damp, but the glass was rising, so I hoped the weather was clearing up; and my prognostications proved true, for, though there was a slight drizzling rain in the morning when I arrived at my destination, it soon cleared off; and by the time I had breakfasted at my friend's house, and was ready to start on my rambles, the sun burst out, and there was every prospect of a glorious summer's day.

The house was seated in a pretty garden, and partly covered with creeping plants; and before going further I took a rapid glance among the leaves and stems of the creepers, and the shrubs in the garden, to see if they would yield anything of interest. The most abundant spider that I here noticed was Textrix lycosina (Tegenaria lycosina, *Walck.*), a pretty species, which is tolerably common in most parts of Great Britain, and chiefly found in the crevices of rocks or loose stone walls. Its superior spinners are triarticulate and very long, with the spinning-tubes arranged on the under side of the terminal joint, and they are employed in the construction of its snare, which consists of a large sheet of web stretched over the stones or plants, and connected with a cylindrical tube extending to the spider's retreat. In a corner of the ceiling of the porch over the door, I found an adult female of Philodromus dispar, sitting near its cocoon, which it had constructed in that situation. I noticed on the shrubs in the garden several specimens of that pretty, green, round-bodied spider, Epeira cucurbitina, which so closely resembles in colour the leaves of the plants among which it resides that it is not easily seen; it is best detected by shaking the boughs violently, when it falls to the ground, always, however, spinning a thread by the way, up which it soon clambers again if undisturbed. The web of this species (one of the geometers) is frequently placed in a horizontal position, but not always so, as has been stated, it being often extended vertically or obliquely.

After leaving the garden I found several spiders secreted beneath some loose pieces of bark on some old palings near the village church. One, occurring here in considerable abundance, was Epeira umbratica, a fine spider, having very much the aspect of a small, flattened toad; it is not uncommon in various parts of England, but is strictly nocturnal in its habits (preying chiefly upon moths), and therefore not often seen; it constructs a large, strong web, having wide intervals between the radii, which it frequently fixes between posts and rails, in a vertical position. I here found also an adult female of Clubiona epimelas, a species closely resembling Clubiona amarantha, but larger in size, darker in colour, and much less common. I now extended my walk towards some thick woods, at a short distance from the village, and soon came to a still piece of water, partly surrounded by wood, and covered with floating plants. In the bushes and trees bordering and overhanging the water I noticed numerous specimens of Tetragnatha extensa, a common spider in the neighbourhood of water, which constructs a delicate geometric web of moderate size, formed of large meshes, and having a circular aperture in the centre. This species is said mostly to wait for its prey stretched out in the centre of its web; but I often found it concealed beneath a leaf in the vicinity of its snare. I noticed one individual lying in its usual extended position (whence its specific name), upon the upper surface of the floating leaf of a pondweed (*Potamogeton natans*), a short distance from the bank.

A small brook issued from the pond, and meandered across a neighbouring field, passing through and forming a considerable piece of swampy ground. The surface of this marsh was literally swarming with different species of Lycosa, the females of which were running about with their egg-sacs or cocoons attached to their spinners. The most plentiful species was the common Lycosa saccata, which, though frequently met with in dry and elevated localities, also frequents watery places. I here discovered a new British species, Lycosa piscatoria, *Koch*, a pretty aquatic spider, bearing a considerable resemblance to L. piratica, but darker in colour, and rather differently marked. I also found the pretty little Lycosa latitans, *Blk.* (L. palustris, *Koch*), which I had never seen before, except in the valley of the Conway, in Wales, while on a visit to my friend Mr.

Blackwall. In some bushes near the swamp I captured two specimens of Epeira scalaris, one of the largest and most showy of our British spiders: neither of them was quite fully grown, and they were each of them concealed, near their webs, in the middle of a folded leaf, one having selected a leaf of Tamus communis.

On my way back to lunch, having now been out four or five hours in a hot sun, I noticed an adult male of Philodromus cespiticollis hunting about with great agility on the trunk of a large elm tree, and after some trouble I managed to secure him.

During another walk which I took in the afternoon the only object of interest which I noticed was a female of Lycosa saccata carrying its young in a mass upon its back, and also retaining the empty cocoon attached to its spinners, which is generally detached as soon as the eggs are hatched and the young leave it.

On the following day I examined some of the country near Bicester, but met with very few interesting spiders, with the exception of a pair (male and female) of very strongly marked specimens of Salticus frontalis, a pretty little species, which appears to be generally distributed in England, though it is not very common.

During my walk I was much interested by watching a colony of wild bees, which had constructed a number of circular burrows in a mud wall by the side of a farmyard. I noticed three different kinds, some of them busily chasing each other, and all of them going in and out of the same holes. I captured several of each kind; and on submitting them to Mr. F. Smith, of the British Museum, he kindly named them for me, when I found two of them to be the male and female of Anthophora acervorum, the sexes of which greatly differ in appearance; and the third was Osmia rufa, a species evidently parasitic upon the former.

Among the other objects of Natural History which fell in my way (besides spiders) on this occasion was a small fish, which I noticed in a pool of water by the roadside. On capturing it in a little hand-net I found that it was a ten-spined stickleback, a species which I had never seen in the North of England. I carried it home with me in a wide-mouthed bottle, and kept it alive between two and three months in a large fresh-water aquarium, where it became so tame that it would leap three or four inches out of the water to take anything from my hand.

On the third and last day of my excursion my friend took me to a large piece of waste or forest land in the neighbourhood, covered with scrub or brushwood, called Mixbury Wild, which he thought would be a good locality for a naturalist; and so it proved, for I there found several rare spiders, and an unrecorded British one. I here noticed numerous specimens of Dolomedes mirabilis, a fine, large species, not uncommon in well-wooded districts, though I never found it in Yorkshire. Many of the females which I saw were running about carrying their cocoons (which are large, globular sacs made of yellow silk) with them. By this habit of carrying their eggs about with them they closely resemble the Lycosæ, but present some interesting points of difference: one is that the cocoon is carried beneath the sternum in Dolomedes, and held there by the falces and palpi; while in the genus Lycosa it is attached to the spinners by lines of silk. In the Dolomedes, again, the mother constructs a large, dome-shaped web among bushes before the eggs are hatched, beneath which she retires with her cocoon, on leaving which the young cluster together on lines of their own spinning, where they remain, under the care of their mother, until they are able to provide for themselves: the different species of Lycosæ, on the contrary, carry their cocoons about with them until the young are extricated, which then cluster together upon their mother's neck, and travel about with her.

On the gorse and other bushes I saw many species of Epeira. I observed numerous colonies of young specimens of E. diadema, of different sizes and ages, but all immature. The adult females of this species, as well as those of E. inclinata and some others, deposit their eggs in a cocoon, in the autumn, which is secreted beneath a stone; the mother then dies, and the young escape from their nest in the spring, when they climb into a neighbouring bush, and spin a few lines, on which they congregate together into a compact mass, and remain in society until they attain some size. I may here allude to the widely different points which occur in the economy of spiders: in many, I may say most, species the females show great attachment for their young, and remain with them for some time after they leave the cocoon; while in others the young are left to shift for themselves, the eggs not being hatched for some months after the death of the parents. This difference seems to depend in a great measure upon the season of the year at which the different species arrive at maturity and deposit their eggs. The males and females of some may be found in an adult state early in the spring, when the young are generally brought up, in the early part of the summer, under their parent's care. The same thing happens with those whose eggs are hatched during any part of the summer or beginning of autumn: but in those spiders which do not arrive at maturity until late in the season (having been hatched the same spring) the eggs remain during the winter in the cocoon, and the parents die after they are deposited. There appears, also, to be a great difference in the relative length of life in different species of spiders, some, as Epeira diadema and E. inclinata, living but a single season, while others appear to live through two or three; but this subject requires further investigation. Besides E. diadema, Epeira quadrata was here very common, though all the specimens I noticed were immature. I saw many half-grown individuals of this species seated in the midst of their snares, and making a violent vibratory or dancing movement, the object of which I do not understand. While looking about I observed another smallish spider, seated in the midst of its web; and on capturing it found that it was an adult female of Epeira acalypha, a species not previously known to inhabit Britain, though common on the Continent.* By carefully looking about I succeeded in finding five or six more specimens of it; they were all seated in the centre of their webs, and all females.

Among other rare and interesting spiders I here met with Theridion carolinum and T. variegatum. The female of this last species constructs a very curious and pretty little balloon-shaped cocoon, about an eighth of an inch in diameter, composed of soft silk of a loose texture and pale brown colour, which is enclosed in an irregular network of coarse, dark red filaments, which unite together at the smaller end of the cocoon, and form a slender stem, from half an inch to an inch in length, by which the cocoon is attached to the surface of a stone or the bark of a tree, where it has something the appearance of a minute plant, as it is often placed in an erect position. I found one of these pretty little nests here, the stem of which was fixed to the leaf of a moss. I also obtained two other small cocoons, very similar in structure to the above, but differing in form, being elongated and fusiform, tapering to each end, and covered with a paler-coloured and more delicate network of red filaments. These cocoons were probably constructed by some species of Theridion closely allied to T. variegatum; but they were new to me; and on transmitting them to Mr. Blackwall I found that they had not previously been observed by that eminent arachnologist.

On the summit of one of the topmost branches of a tall furze bush I found a large, compact cell of white silk strongly secured to the stem. In this cell was an adult female of Clubiona erratica, a fine, handsome spider. She was seated together with her cocoon, which she was taking care of; and Mr. Blackwall says that after the deposition of her eggs the female of this spider does not appear to quit the cell even for the purpose of obtaining food.

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* In a fine collection of spiders made in Dorsetshire, by Mr. Pickard-Cambridge, and transmitted to me for examination last autumn, I found several specimens.

While looking about for spiders I noticed, in a dry, sandy spot, several small, round holes in the earth, which on close examination I found to be retreats of the larvæ of the tiger beetle (*Cicindela campestris*). I watched several of them seated, or rather fixed, at the entrance of their burrows, where they were watching for their prey. Upon disturbing them they immediately disappeared, finding their way to the bottom of their holes, from whence I dug out one or two with my walking-stick, and found that their retreats extended to seven or eight inches in depth. I never saw any of these curious larvæ before, though they cannot be uncommon, the perfect insects being plentiful in so many localities.

I much regretted that I could not further extend my researches in this neighbourhood, as I should probably have met with other new and rare spiders; but business obliged me to return home to Yorkshire this evening, after a short but very pleasant excursion. I subjoin a list of the principal species which I found.

List of Spiders captured near Bicester, Oxon, in June, 1856.

Lycosa ———
„ rapax
„ saccata
„ exigua
„ latitans
„ piratica
„ piscatoria
Salticus scenicus
„ frontalis
Dolomedes mirabilis
Hecäerge spinimana
Thomisus incertus
„ atomarius
Philodromus cespiticollis
Philodromus dispar
Drassus sericeus
Clubiona holosericea
„ amarantha
„ epimelas
„ comta
„ accentuata
„ erratica
Agelena labyrinthica
„ brunnea
Textrix lycosina
Theridion lineatum
„ denticulatum
„ varians
Theridion variegatum
„ carolinum
Linyphia marginata
„ fuliginea
Neriene munda
Epeira diadema
„ quadrata
„ scalaris
„ umbratica
„ cucurbitina
„ acalypha
„ antriada
„ ornata
Tetragnatha extensa

R. H. Meade.

List of new and rare British Arachnidans.

By R. H. MEADE, F.R.C.S.

SEVERAL interesting native spiders having fallen under my notice during the last eighteen months, some of which have not previously been recorded as inhabitants of Britain, I subjoin a list of them, with references to the principal works in which they have been figured or described, together with a brief notice of the localities were they were found.

ARANEIDEA, *or true spiders.*

1. Atypus Sulzeri, *Latreille, Genera,* tome i. p. 85, tab. 5, f. 2; *Hahn und Koch, die Arachnidea,* Band I. p. 117, tab. 31, f. 88; Band XVI. p. 72, tab. 562, f. 1547. Oletera atypa, *Walckenaer, Hist. Nat. des Insect. Apt.* tome i. p. 243, pl. 1, f. 5.

I received an adult male of this interesting spider from O. Pickard-Cambridge, Esq., of Bloxworth House, near Blandford, Dorset, in the beginning of January last. He said it was taken a few days before, from a rabbit-earth while ferretting in his neighbourhood.

Dr. Leach captured specimens of this spider in Great Britain; but since his time it had not been seen again until the summer of 1855, when Mr. Brown, of Cirencester, found several females, with their tubular nests, in the neighbourhood of Hastings. Mr. Newman read an interesting account of this discovery at the Linnean Society, on the 5th of February, 1856 (Zool. 5021). Mr. Brown did not find a male, and wondered where they secreted themselves; the capture, therefore, of that sex by Mr. Pickard-Cambridge in a rabbit-earth is very interesting.

2. Lycosa piscatoria, *Koch, die Arach.* Band XV. p. 6, tab. 506, f. 1417—1419.

I found several adult males and females of this species, which has not previously been noticed as an inhabitant of Britain, in some marshy ground at Newton Purcell, near Bicester, Oxon, on June 24, 1856. This spider bears a very close general resemblance to Lycosa piratica, and appears to have much the same habits; it differs from that species, however, in being darker in colour, in having the legs and palpi more distinctly annulated with brown, and the abdomen differently marked and spotted.

3. Thomisus sabulosus. Xysticus sabulosus, *Koch, die Arach.* Band. XII. p. 64, f. 999.

Four specimens of this spider, which is also a new addition to the British Fauna, were contained in an extensive collection of Arachnida, sent to me for examination in September, 1856, by O. Pickard-Cambridge, Esq., the whole of which had been found by him in Dorsetshire during the two previous seasons, and which comprised many rare and interesting species, all in excellent preservation.

4. Philodromus pallidus, *Walck. Hist. Nat. des Ins. Apt.* tome i. p. 554. Artamus griseus, *Koch, die Arach.* Band XII. p. 81, tab. 415, f. 1013, 1014.

Several specimens of this new British spider were included in Mr. Cambridge's collection, and were taken, he tells me, in May and June, 1854, having been beaten out of Scotch firs at Morden Park, near Bloxworth, Dorset. Before seeing Mr. Cambridge's specimens I had received an adult female of this spider from S. C. Tress Beale, Esq., of Ivy Court, Tenterden, Kent, who captured it on the 5th of June last (1856), on the trunk of an ash tree, "which" (he says) "it so closely resembled in colour, that had it not been devouring a Phryganea I should not have detected it." I received it alive, and the abdomen was distended with eggs, which it deposited, in a few days, in the box in which it was confined. After this act the abdomen was much altered in size and colour, becoming darker and shrivelled.

5. Drassus lucifugus, *Walck. Hist. Nat.* tome i. p. 613. Drassus melanogaster, *Latr. Gen.* tome i. p. 87. Pythonissa lucifuga, *Koch, die Arach.* Band VI. p. 54, tab. 194, f. 468—470.

This spider had been included in the list of British species upon the authority of Dr. Leach, who stated, in the Supplement to the 'Encyclopædia Britannica' (article "Annulosa"), that it had been found in England, under stones; but it had never been seen since his time until I had an opportunity of inspecting Mr. P. Cambridge's fine collection in September last, when I found a well-marked adult female specimen.

6. Epeira acalypha, *Walck. Hist. Nat.* tome ii. p. 50. Epeira genistæ, *Hahn, die Arach.* Band I. p. 11, tab. 3, f. 7. Zilla acalypha, *Koch, die Arach.* Band VI. p. 139, tab. 213, f. 530, 531.

Several females of this pretty spider, which is also new as British, were captured by myself, in June last, near Newton-Purcell, Oxon; several more were also contained in Mr. Cambridge's Dorsetshire collection, which he tells me were beaten from Scotch firs at Morden Park, near Bloxworth, in May and June, 1854. All the specimens that I have seen have been females; and Koch remarks that though this is not a very rare spider in Germany, the male is very seldom found.

7. Epeira angulata, *Walck. Hist. Nat.* tome ii. p. 121; *Hahn, die Arach.* Band II. p. 19, tab. 44, f. 108. Epeira Schreibersii, *ibid.* p. 20, f. 109. Epeira regia, *Koch, die Arach.* Band XI. p. 88, tab. 380, f. 899.

We are indebted for this fine, unrecorded British species to Mr. P. Cambridge, several specimens having been captured by him in Dorsetshire, and forwarded to me, with the rest of his collection, in September last.

8. Epeira tubulosa, *Walck. Hist. Nat.* tome ii. p. 86. Singa hamata et Singa melanocephala, *Koch, die Arach.* Band III. p. 42 et 44, tab. 88, f. 197—199, titulus 7; *Lister, Hist. Animal. Angl. de Aran.* p. 40, tab. i. f. 7.

Since the year 1678, when Dr. Lister published his 'History of English Animals' (including a treatise on spiders), in which he says that this species is common in wet meadows and among rushes, its capture has never been recorded; I was therefore much pleased to see a fine adult female specimen in the collection made by Mr. P. Cambridge in Dorsetshire.

PHALANGIDEA: *Harvest-men, &c.*

1. Phalangium minutum, *Meade, Monogr. on British Phalangiidæ, An. & Mag. of Nat. Hist.* ser. 2, vol. xv. p. 405.

When I published a description of this minute harvest-man I had seen but two specimens, which had been mixed with other species, and the locality in which they were obtained forgotten. I was, however, so fortunate as to meet with another in a collection of spiders made in the neighbourhood of Dublin, and obligingly sent for my inspection in December, 1855, by E. Percival Wright, Esq., of Trinity College, Dublin. I think it very probable that the other two specimens also came from Ireland, as I have received numerous species of Arachnida collected in that country on several former occasions, both from Mr. Wright and the Rev. A. R. Hogan.

2. Ophilio histrix, *Samouelle, Ent. Comp.* p. 120; *Meade, Ann. & Mag. of Nat. Hist.* ser. 2, vol. xv. p. 407, pl. XI. f. 6. Phalangium histrix, *Latreille, Hist. Nat. des Fourmis*, p. 376.

I included this fine harvest-man in my paper on the British Phalangiidæ (published two years ago) upon the authority of Samouelle, though I had not then seen an English example. In November, 1856, however, I received a fine adult female specimen from the Rev. A. M. Norman, of Kibworth, in Leicestershire, who said, "I was this morning (Nov. 4) moving a mat which lay before a window opening down to the ground into the garden, when under it I saw a Phalangium-like spider, which at once struck me as differing from any I had ever before seen." Mr. Norman at once identified the species from my description, and was so obliging as to present me with the specimen.

R. H. Meade.

Note on the Centipede.—I send an extract from a letter just received by me from my friend Lieut. and Adjutant Rainier (St. Helena Regiment), regarding the centipedes and scorpions found on that island:—"Concerning the centipede that I caught, I observed a fact that I have heard of, but never seen before: I and my wife saw it distinctly, when put into gin, turn its head and seize its own body with its nippers, and sting itself to death, which happened in two or three seconds. Many people here say that they have seen this before, both in the case of the scorpion and centipede."—*John M. Jones; April* 11, 1857.

On introducing Foreign Specimens into British Collections.—At p. 5535 of the 'Zoologist' Mr. Bree proposes to introduce Continental specimens into collections of British insects: I sincerely hope this proposal will not be adopted; it would destroy a great part of the interest now attached to our collections, and would not represent a British Fauna, if every species introduced was really a native of Britain. Mr. Bree seems to have forgotten that the same species varies greatly in different parts of its geographical distribution, the variations produced by climate and locality being often greater than that between really distinct species: in proof of my assertion, let any one compare specimens of C. Xerampelina from the South of France with our British specimens: most persons, at first sight, would consider them distinct species. It would not do to trust to labels: when a collection changed hands they might be lost, misplaced, or purposely removed by unscrupulous persons. The main cause of the evil which Mr. Bree proposes to remedy is the absurd eagerness of many collectors to obtain any new or rare species which may be discovered. Certain dealers, taking advantage of this, have imported Continental specimens by wholesale, and passed them off as British to those who were foolish enough to place confidence in their assertions. Most of the species which are rare here may be purchased upon the Continent for threepence each, or, at the most, sixpence; and hundreds of specimens were set in the British style upon the Continent last year for a dealer who is constantly advertising his rarities. The parallel drawn by Mr. Bree between a collection of British insects and a collection of birds' eggs will not hold good: a large proportion of the birds which annually visit us at the period of the equatorial migration never breed here, and it is manifestly impossible to obtain eggs of those species which were actually deposited in Britain, and of course these must be obtained from their breeding stations; with insects the case is totally different.—*Henry Doubleday; Epping, April* 14, 1857.

The new Noctua.—According to promise, I now proceed to give you a few particulars concerning the reputed new Noctua at Brighton, and, although at the risk of being tedious, perhaps I had better state the facts precisely as they came under my observation. On looking over the collection of the Rev. J. Image one day, I saw an insect which at once engaged my attention; after a short examination I pronounced it to be a species of Xanthia new to this country, and evidently closely allied to gilvago: on inquiry I found that this insect was taken, or said to be taken, by George Smith (a dealer, living at 8, King Street, in this town), on the 4th or 6th of October last (at this moment I forget the precise day), on the open Downs near Brighton. Mr. Image's attention was called to the insect in this way:—Hemmings saw it in Smith's possession, and thought it was C. Xerampelina; knowing that Mr. Image wanted that species, he at once informed that gentleman that Smith had a specimen for sale. Mr. Image called on Smith, and saw this insect on the setting-board, but, finding it was not Xerampelina he refused to purchase it. Hemmings again called on Mr. Image, and said, "if this insect was not Xerampelina it was something as good," and Mr. Image then went and bought it. After it was in the hands of Mr. Image Hemmings again saw it, and he then said he had made a mistake, and it was only a variety of Cerago: there the matter ended, and the insect had been quietly stowed away for some months when I saw it. Mr. Image was under the impression that Hemmings saw the insect alive; if such was the fact there would have been an end of all dispute, for Hemmings was most scrupulous in keeping clear of foreign insects. Assuming that Hemmings did see this creature alive, I packed it up and sent it to that prince of entomologists, Mr. H. Doubleday, for identification. In my letter I stated the facts of the case, and also that I did not place the slightest reliance on anything Smith said, but that I risked the claim of this insect to a place in the British list entirely on the supposition that Hemmings saw it alive. Well, with his usual kindness, Mr. Doubleday speedily replied that this insect was Xanthia ocellaris, a species closely allied to gilvago: I was pleased at my opinion being verified by such an authority; then followed a paragraph that was "a regular settler," *viz.* "You appear to be quite certain that this insect was captured near Brighton, or I should have said unhesitatingly that it was a foreign specimen: it precisely agrees with several I have seen in London, French attempts at the English mode of setting." I may here remark that this insect is set in a most peculiar manner, and totally different from Smith's usual style of setting. Mr. Image saw this insect on Smith's setting-board; but that amounts to nothing.—*H. Cooke; 8, Pelham Terrace, Brighton, April* 4, 1857.

Captures of Lepidoptera recorded in the 'Intelligencer.'—

1. Gastropacha ilicifolia.—Ten bred: [where were the larvæ or pupæ obtained? Ed. Zool.]—*R. Weaver, Birmingham.* Two bred: [same query, Ed. Zool.]—*E. S. Bonney, Churchdale House, Rugeley.* Three bred: [same query, Ed. Zool.]—*F. Bonney, Marlborough College, Wilts.* One bred on the 25th March, from a larva found on Cannoch Chase.—*T. G. Bonney.*

2. Endromis versicolor.—One male in St. Leonard's Forest, Sussex, on the 10th of April.—*William Jeffrey, Reigate.* Nine in Tilgate Forest, Sussex.—*Mr. Price, 3, York Road, Hove, Brighton.* Several: [where and when? Ed. Zool.]—*Samuel Howse, Brighton.* Two in Scotland.—*H. J. Harding.* Two, and saw several on the wing, in Tilgate Forest, Sussex.—*Percy Andrews, Brighton.*

3. Petasia nubeculosa.—Six: [where and when? Ed. Zool.]—*H. J. Harding.* Four.—*J. Foxcroft.*

4. Notodonta carmelita.—One bred in April.—*S. Stevens.* One bred on the 18th of April, from a larva found at West Wickham, in July last.—*H. Nicholls, Islington.*

5. Dasycampa rubiginea.—One taken [where? Ed. Zool.] on the trunk of an oak tree, on the 28th of March.—*S. Bingham, Bank, Newnham.*

6. Aleucis pictaria.—Five, at Dartford Heath, Kent, on the 21st of April. Five subsequently at the same place.—*E. G. Baldwin, Albany House, Barnsbury.* One, same locality.—*Samuel Stevens.*

Hyponomeuta vigintipunctatus bred.—In 1848 (Zool. 2272) Mr. Stainton called the attention of entomologists to the habits of this ermine. Last autumn I had the pleasure of finding two fine broods of its larvæ, which have this day begun to make their escape from the pupa state. I expect to have more to dispose of than will supply my regular correspondents, and shall therefore be happy to assist as many other applicants as I can.—*P. H. Newnham; Guildford, March* 21, 1857.

Narycia elegans a Lepidopterous Insect.—Dr. Hagen, the well-known Neuropterist, is now in London, and inspecting the British collections of Neuroptera. He has seen the original specimens of Narycia elegans of Stephens, described by that author as trichopterous, and pronounces them, without hesitation, to be truly lepidopterous. The pretty little Acentria nivea, placed by Stephens as one of the Perlidæ, will of course share the same fate, a conclusion at which I had previously arrived from an examination of a series of specimens most kindly transmitted me by Mr. Brown, of Burton-on-Trent. The propriety of making this last-named change had previously been guessed at, but no sufficient arguments induced in its support. It is curious that the basal segments of Acentria nivea become greasy very shortly after the insect has been shut up in a camphored drawer, exactly in the same way as some of the Tineadæ. Entomologists will find the benzine colos, an article to be purchased at any chemist's, a much better preservative than camphor, the use of which I have entirely discarded. —*Edward Newman.*

Corrections of previous Errors.—Zool. p. 5375, line 2 from bottom, for "*Gurn.*" read "*Guen.*"; p. 5379, bottom line, for "Edulea" read "Ebulea"; p. 5380, line 11 from bottom, for "Meayna alsinalis" read "Mecyna Asinalis"; p. 5382, between "Muralis" and "Mercurialis" insert "5. Linealalis, *St.* p. 300, *Wood*, 1446."—*C. R. Bree; Stricklands, Stowmarket, February* 2, 1857.

Correction of previous Errors.—In the description of Megastigmus Pinus (Zool. 5543), first line after the name of the insect, for "Disk of female black" read "Description of female. Black; the clypeus," &c., &c.; 7th line down, for "and a large one in front of it, *in* the prothorax," read "*on* the prothorax"; 5th line from bottom, for "there are also ten black setæ" read "there are *two* black setæ"; bottom line, for "8¾ lines" read "2¾ lines."—*Edward Parfitt; Weirfield Place, St. Leonard's, Exeter, April* 4, 1857.

Further Note on the supposed new Œstrus.—It is all come out and made clear about the new Œstrus; and I hasten to give you the particulars, as they are somewhat singular. I yesterday went to the British Museum, and was most kindly received by three or four of the heads of the Linnean Society and of the Museum; and I am happy to say that the species to which Mr. Cooke's Œstrus must be referred is no longer a mystery; for the intruder is now found to be not a denizen of this country, but a native of the Arctic regions, the country of the reindeer. The moment my eye alighted on it I exclaimed, "Why, this is a foreigner, and is the male of the Œstrus Tarandi, a very old acquaintance of mine," and a source of plague enough to that animal; and of its history some of the details may not be altogether uninteresting. I visited Copenhagen in the year 1797, to see "le grand chien Danois" of Buffon, that I might afford my worthy friend Sydenham Edwards a true account of this magnificent animal; and I went northward about forty miles above Copenhagen, to a palace there, on purpose to see the creature. On my return to Copenhagen I inquired what insects were to be seen amongst them, and found the chief collection belonged to a Mr. Sehested, and went accordingly to visit him. He very obligingly showed me his collection. My eyes of course fixed on the Œstri, having just before published my essay thereon in the 'Linnean Transactions;' and what was my astonishment to see six or seven very large species, of the existence of which I had not the least previous idea. I returned to England, and had almost forgotten them, when a few years after poor Sehested died, and his insects were brought to London, it being supposed they would sell better here than in the poorer country where he resided: they were purchased by Mr. Children, who, after some time, not caring to keep them, had them put up for sale at King Street; I bought the whole lot, and at the pressing solicitation of Dr. Leach made him a present of a pair of them for the British Museum. When I first became acquainted with the male of Œstrus Tarandi I could not learn anything of its country; but determined, as there he was before my eyes, to afford him not a "local habitation," but "a name," I had him drawn and engraved; and the name I gave him, as having reference to the whole family of disturbers of the poor reindeer, was Œstrus stimulator (see p. 69 of my Treatise, and for the figure Pl. I. fig. 28). Fabricius, not knowing what it was, had previously denominated it Trampa, or rather pecorum. The way in which I discovered that this was the male of Œstrus Tarandi may be briefly stated thus:—One day, examining the male of Œstrus Bovis, which is so unlike the female, I observed that its palpi were clavated, a character not found in the female. This induced me to examine the female of Tarandi, and compare it with the newly-discovered male; and I found exactly the same discrepancy to obtain between them as between the well-known males and females of Bovis. The question still remained, How comes this Arctic insect to be considered an English, or more properly a Scottish, species? "Why," observed my friend White, at the Museum, "I can explain that: some of our noblemen having parks in Scotland ornamented their domain with a few reindeer, and with them came the said animal; and so the whole mystery is unravelled."—*Bracy Clark; 18, Giltspur Street, April* 23, 1857. N.B. This is written without glasses. [Mr. Clark is in his eighty-seventh year.—*E. Newman.*]

New Helophilus.—Last summer I was so fortunate as to find, in my own immediate neighbourhood, a species of Helophilus which is not described either in Mr. Walker's 'Insecta Britannica,' Professor Loew's 'Monograph of the Genus Helophilus,' or the works of Meigen and Macquart. I propose to call it Helophilus Clarkii, as a compliment to my highly esteemed friend Bracy Clark, who has so admirably elucidated an obscure family of British Diptera.—*Edward Newman.*

Capture of a Fossorial Hymenopterous Insect, new to the British Fauna, in the North of England.—Amongst my Cumberland captures of last season (1856) were one male and ten females of a fine black Crabro, which a careful examination led me to believe was the species indicated by Wesmael as melanarius. On submitting an example to Mr. F. Smith, he at once confirmed my opinion, and informed me that it had not before been taken in this country. I append its synonyms and give below Dahlbom's diagnosis, which will facilitate its identification, if met with elsewhere:—

CRABRO (CROSSOCERUS) MELANARIUS, *Wesmael, Rev. Crit. Fouis. Belg.* 133, 9; Crabro leucostoma, *Zett. Ins. Lapp.* 444, 9, *var.* b; Crabro (Crossocerus) podagricus, *Dahlb. Hymenop. Europ.* 1, 339, 222.

"*Medius robustus* 3—3½ *lin. long.; palpis pedibusque nigris, vertice thoraceque nitidis metanoto opaco ruguso aut coriaceo crenaturis normalibus crassis, tibiis posticis clavato obconicis spinosis, margine occipitali mutico.* (♂ ♀)."

This species is very distinct from Crabro podagricus, *Van der Lind.*, *Shuck.*, and *St. Farg.*, and appears to be a northern insect, Wesmael (l. c.) remarking, "Je n'ai pas trouvé cette espèce en Belgique, et elle parait être surtout répandue au nord de l'Europe." I took my specimens in the early part of July, near Lannercost: the first I took were burrowing in a very hard thorn post, but I afterwards found them in a partially decayed stump of a tree—a sycamore, I believe. One of the females, when captured, was carrying a small brilliant blue-green Dipterous insect.—*Thomas John Bold; Long Benton, Newcastle-on-Tyne, April* 6. 1857.

Rare British Coleoptera.—The present season has been remarkably productive in some of the rarer British beetles. Mr. Douglas had the good fortune to find a pair of Brontes planatus under the bark of a decaying lime tree at Shooter's Hill; he has also taken Bostrichus bispinosus out of the shoots of Clematis Vitalba in the same neighbourhood. Lebia crux-minor has been taken in the neighbourhood of Brighton, but perhaps not so abundantly as last year. Dr. Power has taken a single specimen of Chlænius holosericeus in the London district, and thirty or forty of Drypta emarginata in the Hampshire locality: at the last Meeting of the Entomological Club he exhibited this magnificent series, a sight that had never before gladdened the eyes of an English Coleopterist; he also brought to the Meeting one living specimen, and allowed it to march deliberately over Mr. Marshall's table, to the intense delectation of all beholders. Does not Dr. Power's success proclaim, far more than words, the advantage of perseverance and industry? No one ever laboured more assiduously or more successfully.—*Edward Newman.*

A List of the British Species of Aleocharidæ.

By G. R. Waterhouse, Esq.

Feeling convinced that, in order to obtain a tolerably perfect Catalogue of the British Coleoptera within a reasonable time, much research, and that of many entomologists, is required,—and, further, believing that the end in view would be more quickly attained were each of the workers to make known the results of his labours from time to time,—I beg to offer the following list of such of the British Aleocharidæ as have come under my notice, as a contribution of the kind alluded to. It is necessarily very far from perfect, and what there is of it is no doubt incorrect here and there (though I have taken much pains to avoid inaccuracies); but it will, I hope, serve as a nucleus around which better material will collect. I shall hereafter furnish some remarks on the species contained in this list, and in the meantime I will only observe that all the species that have no asterisk attached to the name have been found by myself, nearly the whole of them during the last two years, and, with few exceptions, within short distances of London.

The arrangement adopted is that of Kraatz, whose work on the Aleocharidæ is by far the most complete hitherto published. This author has had before him, and named, the species of the genus Homalota, and some of those of allied genera, contained in the collections of Mr. Wollaston and Mr. Janson, both of which gentlemen have most kindly placed their collections in my hands; and as without this help I think I could scarcely have succeeded in producing this list, I am anxious to convey, in the warmest manner, my gratitude for this very kind assistance.

Family Aleocharidæ.

Autalia, *Leach*, *Steph.*,* *Er.*
1 impressa, *Oliv.*, *Gr.*, *Er.*, *Steph.*
plicata, *Steph.*
ruficornis, *Steph.*
2 rivularis, *Gr.*, *Er.*, *Steph.*
aterrima, *Steph.*
angusticolle, *Steph.*

Falagria, *Leach*, *Steph.*, *Er.*
1 sulcata, *Payk.*, *Er.*, *Steph.*
cæsa, *Er. Col. March.*, *Ste.*† *Man.*
2 sulcatula, *Payk.*, *Gr.*, *Er.*, *Ste. Ill.*
confinis, (*Kirby*), *Ste.*
sulcata, *Er. Col. March.*, *Ste. Man.*
polita, *Curtis*

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* "*Steph.*" = Of Stephens' works and collection.

† "*Ste.*" = Of Stephens' works, and *not* of his collection.

3 thoracica, (*Kirby*), *Steph.*, *Curtis*, *Er.*
4 obscura, *Grav.*, *Er.*, *Steph.*
flavipes, *Steph.*
nitens, *Steph.*
floralis, *Steph.*
BOLITOCHARA, *Mannerh.*, *Er.*, *Steph.*
1 lucida, *Grav.*
lunulata, *Ste. collection.*
2 bella, *Märk.*, *Kz.*
lunulata, *Kirby collection.*
*3 obliqua, *Er.*, *Steph.*
PHYTOSUS, *Rudd*, *Curtis*, *Steph.*, *Er.*
*1 spinifer, *Curtis*
*2 nigriventris, *Chevr.*
spinifer, ♂, *Curtis*, *Steph.*
spinifer, ♀, *Er.*
SILUSA, *Er.*
1 rubiginosa, *Er.*
OCALIA, *Er.*
1 picata, (*Kirby*), *Steph.*
castanea, *Er.*
2 rivularis, *Miller*, *Kz.*
3 badia, *Er.*
prolixa, *Gyll.*, *Mannerh.*
ISCHNOGLOSSA, *Kz.*
Oxypoda, (pars), *Er.*
1 prolixa, (*Grav.*), *Er.*
elegantula, *Sahl.*, *Er.*
corticalis, (*Kirby*), *Ste.*
LEPTUSA, *Kz.*
Oxypoda, (pars), *Er.*
1 fumida, *Er.*
*2 ruficollis, *Er.*
THIASOPHILA, *Kz.*
Aleochara, (pars), *Er.*
1 angulata, *Er.*
HOMŒUSA, *Kz.*
Euryusa, *Märk.*
1 acuminata, *Märk.*, *Kz.*
HAPLOGLOSSA, *Kz.*
Aleochara, (pars), *Er.*, *Steph.*
1 pulla, *Gyll.*, *Er.*, *Ste.*
rufipennis, (*Kirby*), *Ste.?*
puncticollis, (*Kirby*), *Ste.*
villosula, (*Kirby*), *Ste.*
2 prætexta, *Er.*
fulvicornis, (*Kirby*), *Ste.*
erythroceras, *Ste.*
ALEOCHARA, *Grav.*, *Er.*
*1 ruficornis, *Grav.*, *Er.*
Daltoni, (*Kirby*), *Steph.* (Ceranota)
2 fuscipes, *Fab.*, *Grav.*, *Er.*, *Steph.*
3 bimaculata, (*Kirby*), *Ste.*
nigripes, *Miller*, *Kz.*
tristis, *Ste.?*
4 bipunctata, *Ol.*, *Er.*, *Ste.?*
terminata, (*Kirby*), *Steph.*
celer, (*Kirby*), *Ste.?*
5 brevipennis, *Grav.*, *Er.*, *Ste.?*
carnivora, *Gyll.*, *Ste.*
concolor, (*Kirby*), *Ste.*
mœsta, *Ste. Man.*
6 lanuginosa, *Grav.*, *Er.*, *Steph.*
sericea, *Steph.*
7 obscurella, *Grav.*, *Er.*, *Steph.*, (Polystoma)
micans, (*Kirby*), *Steph.*
8 Kirbii, *Steph.*
dubia, (*Kirby*), *Steph.*
grisea, *Kz.*
9 mœsta, *Grav.*, *Er.*
nigrina, (*Kirby*), *Ste.?*
rufipes (*Kirby*), *Ste.*
cursitor, (*Kirby*), *Ste.*
10 mycetophaga, *Kz.*
11 sanguinea, (*Kirby*), *Ste.*
brunneipennis, *Kz.*
12 bilineata, *Gyll.*, *Ste.*, *Kz.*
nitida, var., *Er.*
immaculata, (*Kirby*), *Ste.*
agilis, (*Kirby*), *Ste.*
13 nitida, *Gr.*, *Er.*, *Steph.*
velox, (*Kirby*), *Steph.*
cursor, (*Kirby*), *Steph.*
dorsalis, *Steph.*
14 morion, *Gr.*, *Er.*, *Ste.*
exigua, *Steph.*
DINARDA, *Mannerh.*, *Er.*
Lomechusa, *Curtis*
1 Mærkellii, *Kiesenw.*, *Kz.*
dentata, *Ste.*, *Curtis*
LOMECHUSA, *Gr.*, *Er.*
Atemeles, *Steph.*

*1 strumosa, *Fab.*, *Er.*, *Ste.*
ATEMELES (*Dillwyn*), *Steph.*, *Kz.*
Lomechusa, (pars), *Er.*
1 paradoxus, *Gr.*, *Er.*
2 emarginatus, *Payk.*, *Er.*
acuminatus, *Steph.*
paradoxus, *Ste.*
MYRMEDONIA, *Er.*, *Kz.*
Sect. 1. (Zyras, *Steph.*)
*1 Haworthii, *Steph.*, *Kz.*
fulgida, var., *Er.*
elegans (Bolitochara), *Heer*
Sect. 2. (Bolitochara, *Steph.*)
*2 collaris, *Payk.*, *Er.*, *Steph.*
Sect. 3. (Pella, *Steph.*)
3 humeralis, *Gr.*, *Er.*, *Steph.*
4 cognata, *Märkel*, *Kz.*
funesta, *Heer*
5 funesta, *Gr.*, *Er.*, *Steph.*
crassicornis, (*Kirby*), *Steph.*
6 limbata, *Payk.*, *Marsh.*, *Er.*, *Steph.*
divisa, *Marsh.*, *Steph.*
7 lugens, *Gr.*, *Er.*
8 laticollis, *Märkel*, *Kz.*
Sect. 4. (Astilbus, *Dillwyn*, *Steph.*)
9 canaliculata, *Fab.*, *Er.*, *Steph.*
ILYOBATES, *Kz.*
Calodera, (pars), *Er.*, *Steph.*
1 nigricollis, *Payk.*, *Er.*, *Steph.*
2 propinqua, *Aubé*, *Fairm. et Laboulb.*
3 forticornis, *Boisd. et Lacord.*, *Er.*
CALLICERUS, *Curtis*, *Steph.*, *Kz.*
Homalota, (pars), *Er.*
1 obscurus, *Gr.*, *Steph.*
callicera, *Gr.*, *Er.*
♂ Spencei, (*Kirby*), *Curtis*, *Steph.*
♂ caliginosa, *Steph.*
♀ hybridus, *Curtis*
2 rigidicornis, *Er.*, *Kz.*
fusca, *Heer* (Semiris)
CALODERA, *Mannerh.*, *Er.*
1 nov. sp.?
2 æthiops, *Gr.*, *Er.*
3 umbrosa, *Er.*, *Kz.*
ISCHNOPODA, *Steph.*
Chilopora, *Kz.*
1 longitarsis, (*Kirby*), *Steph.*
attenuata, *Steph.*
TACHYUSA, *Er.*
Ischnopoda, (pars), *Ste.*
*1 constricta, *Er.*, *Steph.*
2 scitula, *Er.*?
*3 leucopa, *Marsh.*, (*Kirby*), *Steph.*
flavitarsis, *Sahlb.*, *Kz.*
chalybea, (*Rudd*), *Steph.*, *Er.*
4 atra, *Gr.*, *Er.*, *Ste.*
aterrima, (*Kirby*), *Steph.*
5 uvida, *Er.*
6 sulcata, *Kiesenw.*
OCYUSA, *Kz.*
Oxypoda, (pars), *Er.*
1 maura, *Er.*
OXYPODA, *Mannerh.*, *Er.*, *Steph.*
1 ruficornis, *Mannerh.*, *Er.*, *Steph.*
2 luteipennis, *Er.*
lata, *Steph.*
acuminata, *Steph.*
Sheppardi, *Ste.*?
lividipennis, *Steph.*
emarginata, *Steph.*
3 vittata, *Märkel*, *Kz.*
4 opaca, *Gr.*, *Er.*
umbrata, (*Kirby*), *Steph.*
5 longiuscula, *Gr.*, *Er.*, *Ste. Man.* 2916
nigrofusca, (*Kirby*), *Ste. Man.* 2910
6 brevicornis, (*Kirby*), *Steph.*
cuniculina, *Er.*
7 exigua, *Er.*
8 præcox, *Er.*
9 alternans, *Gr.*, *Er.*, *Steph.*
concinna, *Ste.*
cingulata, *Ste.*
10 formiceticola, *Märkel*, *Kz.*
11 hæmorrhoa, *Mannerh.*, *Kz.*
promiscua, *Er.*
myrmecophila, *Märkel*
12 annularis, *Mannerh.*, *Kz.*
helvola, *Er.*
testacea, *Hardy & Bold*
13 brachyptera, (*Kirby*), *Steph.*
ferruginea, *Er.*, *Kz.*
HOMALOTA, *Mannerh.*, *Er.*
Bolitochara, *Steph.*
*1 currax, *Kz.*
*2 debilicornis, *Er.*
3 fragilicornis, *Kz.*

4 pagana, *Er.*
5 vestita, *Gr.*, *Er.*
quisquiliarium, *Gyll.*
elongata, (*Kirby*), *Ste.*
sericoptera, (*Kirby*), *Ste.*
6 nitidula, *Märkel*, *Kz.*
7 vicina, (*Kirby*), *Steph.*
femorata, *Steph.*
umbonata, *Er.*
8 graminicola, *Gr.*, *Er.*, *Steph.*
foveola, *Steph.*
9 languida, *Er.*
10 sulcifrons, (*Kirby*), *Ste.*
pavens, *Er.*
11 gregaria, *Er.*, *Kz.*
immunita, *Er.* (Tachyusa)
ruficrus, (*Kirby*), *Ste.*
longiuscula, *Ste. Ill.* v. sp. 27
pallipes, *Ste. Man.* 2187
foveolaris, (*Kirby*), *Ste.*
quisquiliarium, *Ste.*
12 elongatula, *Gr.*, *Er.*
microcephala, *Steph.*
nigripalpis, (*Kirby*), *Ste.* ?
13 terminalis, *Gr.*, *Kz.*
tricolor, (*Kirby*), *Steph.*
14 hygrotopora, *Kz.*
15 luridipennis, *Mannerh.*, *Kz.*
*16 fragilis, *Kz.*
17 labilis, *Er.*
18 subpubescens, (*Kirby*), *Steph.*
ripicola, *Kiesenw.*
carbonaria, *Ste. coll.*
carbonaria, (Tachyusa), *Hardy & Bold*
unicolor, *Ste.*
19 fallax, *Kz.*
20 puncticeps, *Thomss.*, *Kz.*
Algæ, *Hardy & Bold*
elongatula, (*Kirby*), *Ste.*
21 occulta, *Er.*
foveata, (*Kirby*), *Ste.*, (Ischnopoda)
assimilis, (*Kirby*), *Ste.*
22 monticola, *Thomss.*, *Kz.*
*23 excellens, *Kz.*
24 incana, *Er.*, *Steph.*
25 nigella, *Er.*
26 æquata, *Er.*
27 angustula, *Mannerh.*, *Er.*, *Steph.*
28 linearis, *Gr.*, *Er.*, (*Kirby*), *Steph.*
*29 pilosa, *Kz.*
30 debilis, *Er.*
31 deformis, *Kz.*
32 plana, *Mannerh.*, *Er.*
*33 immersa, *Er.*, *Hardy & Bold*
34 cuspidata, *Er.*
plana, *Er. Col. March.*, *Steph.*
35 analis, *Gr.*, *Er.*, *Ste.*
inquinula, (*Kirby*), *Ste.*
foveolata, (*Kirby*), *Steph.*
nigrofusca, (*Kirby*), *Ste. Man.* 2795
Boleti, *Kirby*, *Steph.*
apicalis, *Steph.*
36 soror, *Kz.* ?
37 exilis, *Er.*
38 inconspicua, *Er.*
39 flavipes, *Gr.*
40 confusa, *Märkel*, *Kz.*
41 anceps, *Er.*
42 brunnea, *Fabr.*, *Er.*, *Kz.*, *Steph.*
depressa, *Gr.*, *Er.*
zonalis, (*Kirby*), *Steph.*
atriceps, *Ste.*
nigriceps, *Marsh.*, *Steph.*
thoracica, *Steph.*
*43 hepatica, *Er.*
44 xanthoptera, (*Kirby*), *Ste.*
foveatocollis, (*Kirby*), *Ste.*
merdaria, *Thomss.*, *Kz.*
socialis, var. *b*, *Er.*
sericans, *Steph.*
consobrina, *Steph.*
45 euryptera, (*Kirby*), *Ste.*
validicornis, *Märkel*, *Kz.*
sericans, *Er.*
46 trinotata, *Thomss.*, *Kz.*
socialis, (*Kirby*), *Steph.*
testaceipes, *Ste.*
47 triangulum, *Kz.*
48 nigricornis, (*Kirby*), *Ste.*
Brassicæ, (*Kirby*), *Ste.*
fungicola, *Thomss.*, *Kz.*
nigripalpis, *Ste.* ?
49 sublinearis, *Kz.*
50 nigritula, *Gr.*, *Kz.*
51 sodalis, *Er.*

52 nigricornis, *Thomss.*
53 coriaria, *Miller*, *Kz.*
54 variabilis, *Kz.*
conformis, *Muls.*
livipes, (*Kirby*), *Ste.?*
55 nigra, *Kz.*
56 cinnamomea, *Gr.*, *Er.*, (*Kirby*), *Steph.*
pallipes, *Ste. Ill.* sp. 132
57 hospita, *Märkel*, *Kz.*
58 scapularis, *Sahlb.*, *Kz.*
axillaris, *Mannerh.*
ochracea, *Er.*
59 liturata, (*Kirby*), *Ste.*, ♂
pyrrhoceras, (*Kirby*), *Ste.*, ♀
ochropa, (*Kirby*), *Ste.*
nigritula, *Steph.*
60 oblita, *Er.*
61 amicula, (*Kirby*), *Ste.*
picipennis, (*Kirby*), *Ste.*
sericea, *Muls.*, *Kz.*
62 sordidula, *Er.*
63 inquinula, *Er.*
64 putrida, *Kz.*
65 longicornis, *Gr.*, *Er.*, *Steph.*
antennata, (*Kirby*), *Ste.*
66 villosula, *Kz.*
67 atramentaria, *Gyll.*, *Er.*
æneseens, *Zetterst.*
consimilis, (*Kirby*), *Steph.*
atricornis, *Steph.*
68 palustris, *Kiesenw.*, *Kz.*
currens, *Wollast.*
admota, (*Kirby*), *Ste.?*
69 sordida, *Marsh.*, (*Kirby*), *Steph.*
lividipennis, *Mannerh.*, *Er.*
curvipes, *Steph.*
70 melanaria, *Mannerh.*, *Kz.*
testudinea, *Er.*
71 aterrima, *Gr.*, *Er.? Kz.*
obscurata, (*Kirby*), *Ste.*
luripes, (*Kirby*), *Ste.*
brunnipes, *Steph.*
72 pygmæa, *Gr.*, *Kz.*
aterrima, var., *Er.*
obfuscata, *Gr.*
similis, (*Kirby*), *Steph.*
tenuior, (*Kirby*), *Steph.*
73 laticollis, (*Kirby*), *Steph.*
vernacula, *Gr.*, *Kz.*
fuscula, *Steph.*
74 castanipes, (*Kirby*), *Ste.*
subsinuata, *Er.*
75 parvula, (*Kirby*), *Ste.*
cauta, *Er.*
76 picipes, (*Kirby*), *Ste.*
77 Fungi, *Gr.*, *Er.*, *Steph.*
obfuscata, (*Kirby*), *Steph.*
infuscata, (*Kirby*), *Ste.*
78 clientula, *Er.*
*79 tibialis, *Heer.*, *Kz.*
nivalis, *Kiesenw.*, *Hardy & Bold*
80 circellaris, *Gr.*, *Er.*, *Steph.*
rufescens, (*Kirby*), *Steph.*
contigua, *Ste. Ill.* sp. 64, *Man.* 2784
*81 cæsula, *Er.*
PLACUSA, *Er.*
1 infima, *Er.*
PHLŒOPORA, *Er.*, *Steph.*
1 reptans, *Gr.*, *Er.*, *Ste.*
confinis, *Ste.*
2 corticalis, *Gr.*, *Er.*
HYGRONOMA, *Er.*, *Steph.*
1 dimidiata, *Gr.*, *Er.*, *Curtis*, *Steph.*
basella, (*Kirby*), *Ste.*
SCHISTOGLOSSA, *Kz.*
*1 viduata, *Er.*, (Homalota)
OLIGOTA, *Mannerh.*, *Er.*
1 pusillima, *Gr.*, *Er.*
*2 inflata, *Mannerh.*, *Kz.*
subtilis, *Er.*
EUCEPHALUS, (*Kirby*), *Westw.*, *Steph.*, *Kz.*
Gyrophæna, (pars), *Er.*
1 complicans, (*Kirby*), *Westw.*, *Steph.*, *Er.*
GYROPHÆNA, *Mannerh.*, *Er.*, *Steph.*
1 affinis, *Sahlb.*, *Mannerh.*, *Er.*
2 nana, *Payk.*, *Er.*, *Ste.*
marginata, *Steph.?*
3 fasciata, *Marsh.*, (*Kirby*), *Steph.*
congrua, *Er.*
pallicornis, *Steph.*
4 lucidula, *Er.*
5 minima, *Er.*
6 strictula, *Er.*
MYLLÆNA, *Er.*, *Ste.*
Centroglossa, *Matth.*, *Steph.*

*1 dubia, *Er.*, *Kz.*, *Ste.*
conuroides, *Matth.*, *Steph.*
2 intermedia, *Er.*
attenuata, *Matth.*, *Ste.*
3 minuta, *Er.*, *Matth.*, *Ste. Man.* 2932 and 2936
4 gracilis, *Matth.*, *Ste.*
forticornis, *Kz.*
5 elongata, *Matth.*, *Kz.*
6 brevicornis, *Matth.*, *Ste.*
gracilis, *Heer.*, *Hardy & Bold*, *Kz.*
7 infuscata, *Kz.*
GYMNUSA, *Karsten*, *Er.*
1 brevicollis, *Payk.*, *Er.*
*2 variegata, *Kiesenw.*, *Kz.*
DINOPSIS, *Matth.*, *Steph.*, *Kz.*
Gymnusa, (pars), *Er.*
1 erosus, (*Kirby*), *Steph.*
fuscatus ("furcatus" in MS.), *Matth.* *Ste.*, *Kz.*
laticollis, *Er.*

G. R. WATERHOUSE.

Note on the Dromius glabratus of British Cabinets.—My attention has been lately called by Dr. H. Schaum, of Berlin, to the fact that there are two well-defined Dromii confounded under the specific title of glabratus,—not merely in England, but throughout Europe generally. True it is that they were originally recognised as distinct both by Megerle and Sturm, the latter of whom gave very excellent figures of them in the second volume of the 'Deutschlands Fauna,' in 1812, which it is surprising should have been afterwards so universally ignored. Never having myself critically investigated the British Dromii, and having, moreover, only taken the smaller one of the two species in question, I had never had reason to suspect that there might perhaps exist in this country a near ally to what we had always been accustomed to regard as the (minute) D. glabratus; and it was therefore with the greater pleasure that I received Dr. Schaum's communication, because it undesignedly confirmed my own independent views long ago arrived at in Madeira, where the two species under consideration also occur, and where it had never once entered into my mind (whilst overhauling them most carefully) to cite them as identical. During four successive visits, indeed, to those islands I have taken them abundantly, and they have been before me now, at intervals, for upwards of ten years; and yet I have never met with a single example which left me in doubt as to which of the species it should be referred to; and I confess I should not have hesitated to identify them with the glabratus and maurus of Sturm had I not been aware that those two insects (so admirably expressed in the figures above alluded to) were looked upon as coincident by European Coleopterists, whereas my Madeiran ones I could not but regard as truly distinct *inter se*. Assuming therefore that entomologists were not mistaken in their hypothesis, I concluded (as a matter of necessity) that one of my Madeiran species must be new; and since the smaller of the two was clearly identical with what we have always acknowledged (though wrongly) as the glabratus, I retained it as such, and called the larger one "negrita." Dr. Schaum, however, having lately informed me that he had observed exactly the same characters in Continental specimens as I had pointed out in my 'Insecta Madeirensia,' he suggested that the two Madeiran species were probably the same as those figured by Sturm, and as those (confounded under the name of glabratus) which he had been recently examining in Germany; and, with the view of inquiring into this still further, he requested me to inspect carefully the

Stephensian specimens of glabratus, femoralis, angustatus and maurus, in order to ascertain whether the two former were not referrible to the larger species (or glabratus proper), and the two latter to the smaller one (or maurus). This I accordingly did, and found that it was as he suspected; and in order therefore to clear up the synonymy of the two, I would record them as follows:—

DROMIUS GLABRATUS.

Carabus femoralis, *Marsham*, *Ent. Brit.* i. 463 (1802).
Lebia glabrata (*Meg.*), *Dufts.*, *Faun. Austr.* ii. 248 (1812).
Dromius glabratus, *Sturm*, *Deutsch. Faun.* vii. 54, tab. 171, f. c (1827).
„ „ et femoralis, *Steph. Ill. Brit. Ent.* i. 25 (1828).
„ „ (p.), *Daws.*, *Geod. Brit.* 13 (1854).
„ negrita, *Woll.*, *Ins. Mad.* 9 (1854).

DROMIUS MAURUS.

Dromius maurus (*Meg.*), *Sturm*, *Deutsch. Faun.* vii. 55, tab. 171, f. D (1827).
„ „ *Steph.*, *Ill. Brit. Ent.* i. 176 (1828).
„ „ et angustatus, *Steph.*, *Man.* 8 (1839).
„ glabratus, *Woll.*, *Ins. Mad.* 9 (1854).
„ „ (p.), *Daws.*, *Geod. Brit.* 13 (1854).

I may state that the former of these species may be readily known from the latter, not only by its uniformly larger size, somewhat less intensely black and not quite so brilliantly polished surface, but likewise by its elytra being proportionably less abbreviated and with their striæ more apparent, by its prothorax being rather more quadrate (or less narrowed behind), and by its head and antennæ being longer and more robust. Dr. Schaum also remarks (which I had not observed until he called my attention to it) that the claws of the glabratus are more powerfully denticulated than those of the maurus,—a structure which is very perceptible when viewed in Canada balsam, beneath the microscope. Whether the larger species is rare in this country, I am not able to say, considering that I have never taken it; but the smaller one (the true maurus) is abundant everywhere, darting across foot-paths in corn-fields and gardens, and teeming in gravel-pits and by the sides of dusty roads, in most parts of England. Even in Madeira it occurs in every island of the group, though it is there somewhat scarce; but in Madeira proper the larger one (or glabratus) is extremely common, though apparently confined to that island. We may just remark that the specific name of femoralis, *Marsham*, has in reality the priority over glabratus, *Dufts.*; nevertheless, since the diagnosis of the former was founded on an immature individual, and is so utterly worthless and undecypherable that it ceases to be a diagnosis at all, it can scarcely be allowed to supersede that which was afterwards given,—in conjunction with a correct description and from proper data.—*T. Vernon Wollaston;* 10, *Hereford Street*, *Park Lane.*

PROCEEDINGS OF SOCIETIES.

ENTOMOLOGICAL SOCIETY.

March 2, 1857.—W. WILSON SAUNDERS, Esq., President, in the chair.

Donations.

The following donations were announced, and thanks ordered to be given to the donors:—'The Journal of the Royal Agricultural Society of England,' Vol. xvii. Part 2; presented by the Society. 'Proceedings of the Royal Society,' Vol. viii. Nos. 23 and 24; by the Society. 'Entomologische Zeitung,' 17th Annual Part (1856), and Nos. 11 and 12 for November and December of the same year; 'Linnæa Entomologica,' Vol. ii.; by the Entomological Society of Stettin. 'Monographia Cassididarum,' auctore Carolo H. Boheman, Tomus tertius; by the author. 'Anniversary Address delivered to the Berwickshire Naturalists' Club, at Berwick, January 30th, 1856, by Robert Embleton, Surgeon, President;' by the Club. 'Nouvelles Considérations sur la Nidification des Guêpes,' par H. De Saussure; by the Author. 'Uber eine neue Fliegengattung: Raymondia, aus der Familie der Coriaceen, nebst Beschieibung Zweier Arten derselben, Von Georg Frauenfeld; by the Author. 'The Zoologist' for March; by the Editor. 'The Journal of the Society of Arts' for March; by the Editor. 'The Literary Gazette' for March; by the Editor. 'The Athenæum' for January; by the Editor. 'Elements of Entomology,' No. 6; 'A Manual of British Butterflies and Moths,' No. 13; 'The Substitute,' Nos. 16—19; by H. T. Stainton, Esq. 'Revue et Magasin de Zoologie,' 1856, No. 12; 1857, No. 1; by the Editor, M. F. E. Guérin-Méneville. A cabinet containing British and foreign insects; by T. F. Dillon Croker, Esq.

Election of a Member.

T. F. Dillon Croker, Esq., F.G.S., of 6, Strand, was balloted for, and elected a Member of the Society.

Exhibitions.

Mr. Wallace exhibited two specimens of Laphygma exigua, bred from eggs laid by a female taken in the Isle of Wight, in July last; and read the following description of the larvæ:—

"Pinkish brown on the back, pinkish yellow underneath; a row of black spots down the back, two rows on each side, between which are white spiracles, or rather a darker ground than that outside the rows of black spots; head and tail greenish. Length, when full-grown, about 1 inch. Fed on plantain, remaining during the day rolled up in the leaves or roots. The eggs were laid about July 18, and hatched in three weeks; larvæ full-fed about September 12; and the perfect insects now exhibited emerged October 20."

Mr. Douglas exhibited some small lepidopterous larvæ found at the roots of grass. He stated that he had lately taken a number of larvæ and Coleoptera, especially Staphylinidæ, in marshy ground at Hammersmith, by cutting off grass below the surface of the ground, and shaking it over a sheet of paper. Great numbers of insects appear to hybernate in such situations. Amongst the Coleoptera thus taken were several specimens of the rare Anchomenus Thoreyi.

Mr. Stevens exhibited some drawings of larvæ of Natal Lepidoptera, made by Mr. R. W. Plant, and also the perfect insects bred from the larvæ represented, amongst which were several fine species of Bombyces and a new species of Acræa, the larva of which was represented armed with long, branched spines, and is interesting from the fact of the larvæ of this genus having hitherto been unknown.

Mr. Were read the following, by Mr. Newman, exhibiting the specimen described:—

Remarkable Variety of Arctia Caja.

"Sex male. Head, antennæ, tippets and abdomen have the normal colouring; all the other parts and colours abnormal; the prothorax, mesothorax, fore wings and entire disk of the hind wings an uniform brown, of that character which is frequently called mouse-coloured; there is not the slightest trace of the four colours (velvety umber-brown, cream-colour, intense purple-black and bright red) which usually adorn this beautiful insect; at the base of the hind-wings and along the abdominal margin are long, hair-like scales, of the normal red colour; beneath, the same uniform mouse-colour pervades the entire surface of the wings, except the base of the hind-wings, which is paler, and has the same long, red hairs which I have described on their upper surface. The wing-rays are remarkably prominent, and appear of a darker brown than the interspaces; but this apparent difference of colour I attribute solely to their prominence."

Mr. Westwood exhibited a large larva (apparently of a Sphinx) preserved in spirits. The species is said to cause great injury to the maize crops on the Parenia River, in South America. He also exhibited a Nonagria, from the collection of Mr. Wollaston, the larva of which is very injurious to the sugar-cane in Madeira. Mr. Westwood observed that this insect is quite distinct from the species which damages the cane in the West Indies, which latter was originally introudced from Ceylon.

Structure of the Tarsi in Insects.

Mr. Westwood exhibited an extremely minute species of Coleopterous insect, of which several specimens were captured in the Island of Madeira by T. V. Wollaston, Esq., who had placed them in his hands for examination. The species belonged to the same small group as the genus Orthoperus of Stephens, and several other minute genera illustrated in Mr. Wollaston's 'Insecta Madeirensia,' all of which were interesting on account of the structure of their tarsi. After referring to the additional interest attaching to the study of the modifications of structure of insects, or indeed of any other tribe of animals, consequent upon the investigation of homologies and the tracing of various structures to some normal type, Mr. Westwood referred to the modifications in the structure of the tarsi of Coleopterous insects, which he considered typically to consist of five joints; it was consequently interesting to know how one or other of these joints became lost in certain beetles whose tarsi possessed fewer than five joints, and whether this loss was effected either by the absolute want of a joint, or by its existence, in a coalesced state, with one or other of the existing joints. The great division of pseudotetramerous Coleoptera was then referred to by Mr. Westwood, who considered it an excellent and natural division, sufficient of itself to prove the excellence of the tarsal system. This division contains the great mass of vegetable-feeding insects, consisting of the three great families of Longicorns (Cerambyx, *Linn.*), with a long body and long, straight antennæ; the weevils (Curculio, *Linn.*), with a short body and generally elbowed antennæ; and the Phytophagous beetles (Chrysomela, *Linn.*), with a short body and short, straight antennæ. The intimate connexion between the families Curculionidæ and Chrysomelidæ was proved by such genera as those described by Lacordaire, as Phytophagous; and by Schönherr, as Curculionideous; as well as by Carpophagus and Rhæbus; whilst the connexion between the Longicorns and Chrysomelidæ was effected by the Australian genus belonging to the Acrocerides, but having entirely the appearance of the Lepturides, as well as by Donacia and its allies. All these insects, from the nature of ther mode of life on plants, require a firm footing, and their tarsi are consequently dilated, and furnished beneath with pads. This is the case with the three basal joints; but the fourth joint, either on account of the large size of the three preceding joints, or in order to strengthen the terminal claw-joint, was of a very small size, and was generally soldered to the base of the claw-joint. Here, then, could be no doubt that the fourth joint was becoming, as it were, obliterated; so that it would be easy to conceive a pseudotetramerous insect in which the soldering of the two terminal joints had become so close that all trace of the articulation would be lost; and if this occurred simultaneously with the narrowing of the basal joints we should have before us the hind-foot of a heteromerous insect. The insect under examination presented a different mode of the gradual top of a joint. The tarsi consisted of a short joint, rather swollen at the base of the foot, having several bristles placed obliquely at its extremity beneath. This is followed by a long, simple joint, obliquely truncated at its tip, with several bristles inserted obliquely at its extremity beneath, and having a very indistinct trace of articulation across the middle; it is nevertheless, however, furnished on the under side, at the point where this central articulation should take place, with one or two fine bristles, like those at the extremity of the basal joint. There then follows a small but distinct joint, at the end of which the long claw-joint is fixed. Here, therefore, the apparent loss in the number of joints was caused by the soldering together of the second and third normal joints. In its general form, and the number of joints and form of the antennæ, the insect is closely allied to the genus Orthoperus; there are, however, certain modifications of structure in the palpi which require further examination before we can definitely refer the insect to that genus. It was, however, important to determine what bearing this structure of the tarsi would have upon that of the genus Orthoperus, more especially since it was from various observations on this part of the structure of that genus that it had been regarded as a separate genus by Heer, who had named it Pithophilus, and by Redtenbacher, who called it Microsphæra. On examining some specimens of the legs of the common British species of Orthoperus, mounted in Canada balsam by Mr. Wollaston, we found the same general proportion of the joints; but the articulation between the short basal joint and the long second joint was almost lost; whilst the almost obsolete articulation in the middle of the long second joint, in the Madeira species, was quite distinct, the two terminal joints being alike in both. Although, however, the basal joint appeared lost by coalition with the second joint, there still remained evidence of its existence, in the presence of a small, oblique bristle on the under side of the foot, just where the extremity of the basal joint might be looked for. The two structures, therefore, illustrated each other, proving that these insects, and also leading to the belief that many other anomalous and supposed tetramerous beetles, are in truth pentamerous insects disguised by the soldering together of two of the adjacent joints of the tarsi.

Mr. Waterhouse said that in some Coleoptera he had frequently observed bristles, such as Mr. Westwood had spoken of, in the middle of an articulation, more especially of the claw-joint in Homalota; and that therefore the presence of a bristle must not be taken as a certain indication of the existence of a joint.

Mr. Wollaston said that the bristles alluded to by Mr. Waterhouse, which occurred in the middle of the articulations, were very different from those at the joints. A moderate magnifying power would at once show the difference.

Effects of the Sting of a Scorpion.

Mr. Westwood communicated an extract from a letter of a correspondent in India relative to the effects of a sting of a scorpion. It is described as very severe, resembling the pain of a dozen wasp-stings concentrated in the same spot. The finger began to swell, and the whole arm pained excessively, with a feeling of sickness. Ipecacuanha powder was applied, in the form of a paste, to the sting, and brandy and water taken liberally. A native doctor, on being sent for, after rubbing the arm, at length suggested a native remedy, namely, a small pan of live charcoal, upon which were occasionally, as they melted, thrown pieces of wax, the smoke from which was allowed to arise over the wound, and which allayed the pain to such a degree that in about an hour and a half the patient was able to smoke. The stung finger was still insensible to the touch and very much swollen, the arm cold as ice, although it had been rubbed for two hours, whilst the sound hand and arm were hot. More brandy and water, with cigars, were tried. The patient fell into a long sleep, and awoke next morning with but slight remains of the pain of the sting.

Mr. Stainton called attention to a paper by F. Bashford, Esq., read before the Meeting of the Society of Arts, on the 4th ult., on certain experiments made with a view to improve the present silk yieldings of India.

Mr. Douglas read the following:—

Cicada hæmatodes.

"In the December number of the 'Entomologische Zeitung' is a note by Dr. Hagen, supplementary to his former papers in that journal on the singing Cicadæ. As the following has especial reference to English entomologists, I have translated it, with the hope that it may fall under the notice of some one who will render the desired service:—

"'Concerning the types of C. hæmatodes, Herr Baron von Osten-Sacken wrote to me on the 27th May, as follows,—

"'Three examples stand under this name in Linné's collection. The one bearing the ticket, and the second, agreeing with the first, are both, to my view, not C. montana. Both of them are unspread, and have on the fore margin of the upper wings a brown cross vein, which is wanting in the examples of C. montana to be seen near them. Otherwise it seems to me the size is much the same, but the abdomen, as in C. montana, with reddish margined rings; the base of the upper wings yellowish. The third example is different from both of the others. All the veins are broadly brown, which gives the wings a variegated appearance; the abdomen on both sides broadly red. In Mr. Westwood's collection is an English C. montana. He at first described it as new, but afterwards named it C. hæmatodes, though he did not recollect whereon he had founded the name.'

"It is not unlikely, according to this communication, that the two first specimens belong to the above-mentioned variety of C. montana with brown-bordered subveins, or to C. adusta. About the third I abstain from making any conjecture. Extremely desirable is it that some English entomologist would undertake a new examination and determination of the Cicadæ in Linné's collection."

Mr. Westwood considered that C. hæmatodes ought not to be placed amongst the singing Cicadæ, as it appeared that no one had ever heard it sing.

Dr. Gray observed that a lady of his acquaintance had captured two examples on the window of a house in the New Forest, which were quite mute.

Mr. Stevens said he had entomologized a great deal in the locality for the species, but never heard any sound produced by it.

Mr. Douglas had made particular inquiries of residents in the New Forest, where the species occurred, and all agreed that the insect never sung nor produced any sound whatever.

Mr. Baly read descriptions of twenty new species of Doryphora, &c., and exhibited some beautiful drawings of the insects.

Mr. Smith made some remarks in reply to Mr. Janson's observations on Bledius, read at the February Meeting.

Mr. Westwood and Mr. Janson spoke on the same subject.

April 6, 1857.—Dr. J. E. Gray, V.P., in the chair.

Donations.

The following donations were announced, and thanks ordered to be given to the donors:—Dr. Jacob Sturm's 'Deutschland's Fauna,' Die Insecten, Vol. xxiii.; presented by Dr. J. K. C. F. Sturm and Dr. J. W. Sturm, through W. Spence, Esq. 'Exotic Butterflies,' Part XXII.; by W. W. Saunders, Esq. 'Revue et Magasin de Zoologie,' 1857, No. 2; by the Editor, M. F. E. Guérin-Méneville. 'The Zoologist' for April; by the Editor. 'The Athenæum' for March; by the Editor. 'The Literary Gazette' for March; by the Editor. 'The Journal of the Society of Arts;' by the Society.

Election of a Subscriber.

G. Lewis, Esq., of 6, Kidbrook Place, Blackheath, was balloted for, and elected a Subscriber to the Society.

Exhibitions.

Mr. Foxcroft sent for exhibition two pairs of Petasia nubeculosa recently taken at Rannoch.

Mr. Stevens observed that last autumn he had reared some larvæ of this species from the eggs, but none of the perfect insects had yet emerged, although the pupæ appeared to be healthy.

Mr. Douglas exhibited a specimen of Ancylocheira aurulenta, taken alive at Forest Hill, but a native of North America, and not unfrequently sent in collections from Canada.

Mr. Syme exhibited two specimens of Deilephila Galii which he had lately bred. The pupæ had been exposed by him to a heat of 57°, during the day time, from the 26th January last; and the moths emerged on the 20th and 23rd of March.

Mr. Fortune exhibited samples of the article known as "musquito tobacco" in China. He stated the composition to be the saw-dust of pine and juniper, with the powdered roots of a species of Artemisia and a small quantity of arsenic. These are formed into a paste, and coated over slender sticks, of about two feet in length, which are burnt as candles, and never fail in driving the musquitos from the room. Mr. Fortune added that the Artemisia, which is a species growing wild on the Chinese hills, is employed to fumigate bee hives, in order to take the honey without killing the bees.

Mr. Westwood remarked that he could do almost anything with bee hives without danger, by merely smoking a cigar during the operation; indeed, he had occasionally cut combs from a hive without even that protection.

Mr. Newman read the following paper, intituled

What is the Scutellar Depression?

"Every day we meet with people astonished at the vastness of their own knowledge. From old 'Katterfelto, with his hair on end, at his own wonders wondering for his bread,' to the modern pedagogue, whom we find in every 'twopence-a-week' day school, paralyzed by the idea 'that one little head could contain all that he knew,' there seems a well-connected series of egotists, indigenous, exotic, living and extinct, who are most complacent touching the subject of their own attainments. This complacency (I may as well plead guilty to its possession) received a rude check in my own instance when, two years ago, joining the rush of Coleopterists to that oasis in the desert of British Coleopterology, Dawson's 'Geodephaga,' I perceived that here and there, among the species which their reverend sponsor has so ably differentiated, there existed a character which, in common with my beetling brothers, I had entirely overlooked. This character is a most conspicuous depression at the base of the elytra, a sort of wide, shallow pit, reaching almost from shoulder to shoulder, and often extending down the suture to full one-third of its length without any compensating elevation of surrounding regions. At the bottom of this depression is the scutellum; and the depression, thus embracing the scutellar region, I have ventured to call the 'scutellar depression.' Such, then, being the scutellar depression, the question I would next ask is this,—What is its teaching? At first I plumed myself on having discovered a new species; but when I found that sixteen well-marked species had each a scutellar-depressed counterpart I relinquished this idea, as entailing too extensive an exercise of our cherished prerogative of name-giving: I thought it would be riding the pairs-of-species hobby a little too hard. Next I conjectured it might be sexual, and hoped to find it a ready mode of distinguishing the lady Carabs from the gentlemen; but the examination of more individuals threw this conjecture overboard. For my third guess I tried the wing difference, knowing that there were in some species winged and wingless individuals; but this failed: the depressed and elevated were equally provided with wings. I submitted them *seriatim* to the process of gently raising the elytra, and peeping beneath them; but no secrets were concealed there, and, as may be assumed, none were revealed. One 'refuge for the destitute' still remained—immaturity; but even this would not do: the depressed individuals were alternately hard and soft; and this last guess neither elevated their spirits nor mine. The phenomenon, in fact, was purely exceptional, and its occurrence governed by no law that I could enunciate. The following list will show, in a tabular form, the result of the examination of fifteen species, thus afflicted, in the cabinets of Dr. Power, Mr. Douglas, and the Entomological Club. I have only to add that I sincerely hope that Mr. Westwood may give us an explanation, at once logical, luminous and conclusive, like that he has appended to my paper on heterocampous pairs of Lepidoptera. To have elicited those brilliant observations is, indeed, a high reward for my having jotted down a few passing thoughts. We cannot but admire, in Mr. Westwood, that more than Roman virtue which is ever ready thus to immolate his dearest friends on the altar of Science,—to drown them, as it were, in a flood of light.

Names.	Number of individuals examined.	Number of males depressed.	Number of females depressed.
Elaphrus multipunctatus	thirty-two		six
Chlænius nigricornis	twenty-three	two	
Badister unipustulatus	ten		four
Anchomenus pallipes	thirty-six	three	three
„ oblongus	thirty-eight	two	two
„ marginatus	thirty	one	
„ viduus	eighty	fourteen	thirteen
„ fuliginosus	forty-two	twelve	ten
„ Thoreyi	fifty-three	four	four
Pterostichus erythropus	fifty-two		one
„ minor	thirty-six		three
„ nigrita	sixty-one	four	
„ anthracinus	thirty	two	two
Stenolophus vespertinus	twenty-one	two	one
Bembidium doris	sixty	two	one

Mr. Westwood had considered the depression of the scutellar region alluded to was in some way connected with the presence or absence of wings, but on examination had found wings in both depressed and non-depressed specimens. He regretted that Mr. Newman had not investigated the subject in that point of view.

Mr. Wollaston thought the depression in question to be a malformation, arising from accidental causes, probably the result of some injury received during the earlier stages of the insect, as in all the species exhibited it was the exception and not the rule.

Mr. Lubbock called attention to one of the binocular microscopes which he placed on the table, and explained the advantages this construction is considered to possess over ordinary instruments.

Mr. Wollaston could bear testimony to the excellence of the object-glasses. He considered that, as so many persons have eyes of different focus, the eye-pieces of the binocular microscope should be so constructed as to meet this difficulty.

Grooves in the Eyes of certain Coleoptera.

Mr. Wollaston called attention to the existence of grooves in the eyes of certain Coleoptera, adducing as an illustration the genus Trixagus (or Throscus of British cabinets), in which four out of five species with which he was acquainted possessed this structure, more or less developed, and which he had not seen anywhere alluded to. He stated that the impression was usually of a somewhat curved form, and extended, from the edge nearest to the insertion of the antennæ, across the centre of the eye, but that it seldom reached the opposite margin, becoming gradually evanescent as it approached it; that in the common T. dermestoides it was continued but little more than half-way across, in the elateroides of Heer it occupied at least two-thirds of the entire distance, whilst in the gracilis of his 'Insecta Maderensia' it very nearly touched the opposite part of the circumference. The antennæ of Trixagus being implanted very near to the inner margin of the eye, he believed that this *sulcus* had reference to the lodgment of those organs when the insect was in a state of partial activity, and had removed them from out of the grooves of its anteriorly produced prosternum,—an hypothesis which was rendered the more probable since the only species in which he had as yet remarked the impression to be totally absent was one from Madeira (which he had lately described under the name of integer), in which the antennæ are inserted further from the eye than in the normal members of the group, and in which, consequently, any such ocular receptacles would be superfluous.

Mr. Tapping communicated some notes by Mr. Fedarb, of Dover, on Acari found in a photographic portrait-case, alluded to by that gentleman at a former Meeting of the Society; and also a notice, by the same, of the ravages committed by a species of Atropos on the Barbadoes nut, accompanied by drawings of the insects.—*E. S.*

ZOOLOGICAL SOCIETY.

May 12, 1857.—DR. GRAY, F.R.S., in the chair.

Exhibitions.

Mr. Tegetmeir exhibited to the Meeting a very large adult cranium of the great chimpanzee (*Troglodytes Gorilla*). This specimen, which was brought from the Gaboon by Captain Simmonds, is larger than any of the casts in the College of Surgeons, or the cranium belonging to Dr. Savage, of America, which was described by Professor Owen and figured in the 'Transactions' of the Society, and appears to be the most mature specimen known.

Mr. Sclater exhibited specimens of two undescribed species of the Tyrannine genus Todirostrum, from a collection received by Sir William Jardine from the Rio Napo, and proposed to call them T. calopterum and T. capitale; also two specimens of an apparently hitherto unnoticed bird of the same genus, from his own collection, which he characterized under the name of T. exile; the latter species was from New Granada. Mr. Sclater also called the attention of the Society to specimens of the N. American Parus atricapillus and Parus meridionalis from S. Mexico, and pointed out the distinguishing characters of these two closely allied species.

Mr. F. Moore communicated a paper 'On the Habits of some Birds observed in the Plains of N.W. India in 1849,' by the Rev. T. Philipps, Baptist missionary. The names of the birds described in this paper (sixty in number) had been determined by comparison with specimens in the museum of the Hon. East India Company.

Mr. Moore read a paper containing descriptions of some new species of Lepidopterous insects from Northern India, characterized as follows:—Pieris Nama, *E. Doubleday, MS.;* P. Seta, *Moore;* P. Sanaca, *Moore;* P. Indra, *Moore;* P. Durvasa, *Moore;* and Papilio Janaka, *Moore.—D. W. M.*

NORTHERN ENTOMOLOGICAL SOCIETY.

March 14, 1857.—B. COOKE, Esq., President, in the chair.

Election of Members.

The Rev. P. H. Newnham, of Guildford; William Simmons, Esq., of Wentworth; John Angelo Wasse, Esq., of Manchester; and — Linton, Esq., of Manchester, were elected Members of the Society.

Exhibitions.

The Rev. H. H. Higgins brought for exhibition two of the drawers belonging to the local cabinet of the Liverpool Royal Institution, filled with Diptera and Hymenoptera which he had captured within fifteen miles of Liverpool. The manner in which the collection was got up elicited great admiration, and the extent of the collection took some of the members by surprise. The whole were collected, named and arranged, by Mr. Higgins, in two seasons.

The President exhibited a box of Diptera which he had been naming. They were collected by Mr. Birchall, in Yorkshire.

Mr. Simmons sent a large packet of the larvæ of Depressaria assimilella for distribution.

Mr. Gregson exhibited a box of Tineina which Mr. Buxton had kindly sent to the Meeting. Amongst them were several interesting species.

Mr. E. Birchall brought several large boxes of South-American Lepidoptera, principally butterflies and Sphinges, containing many hundreds of specimens, which he distributed amongst the members. They were collected by Mr. Henry Birchall, in the last week in July, 1856, during his ascent of the river Magdalena, principally at the stations where the steamer called for fuel, &c. Amongst the Sphinges were many rare species, nine being quite new to Mr. N. Cooke's already extensive collection of the Sphinges of the world.

Mr. Birchall also brought a large box full of beautiful bird-skins, principally humming birds, for distribution; and afterwards exhibited a box of British Lepidoptera, in which was Dasycampa rubiginea, taken on ivy, last season, near Dublin, being a new locality for this species, hitherto considered rare. An interesting discussion ensued, in which a member observed that he had no doubt rubiginea might be taken freely near Conway, and called the attention of the Meeting to Godarth Wood, between Conway and Llandudno, as a most promising locality for that and other species. In the box was a fine Acronycta Alni, also from Ireland; and a Noctua never before taken in Britain, Agrophila Leo, *Gu.* ii. p. 205, a native of America. The specimen was taken by Mr. Birchall, in his garden near Leeds. He observed that there were many American plants growing in the grounds and in the greenhouses, and it had probably been imported with them.

Mr. N. Cooke exhibited the whole of his foreign Sphinges, observing that, in addition to the nine species before named, Mr. Birchall had enabled him to complete several series and to improve many specimens.

Mr. Cooper observed that amongst the humming birds Mr. Birchall had given him for the Warrington Museum were many rare and interesting species.

The Secretary read a summary of the 'Transactions' of the Society for the year 1856, from which it appeared the Society was in a most flourishing and satisfactory condition.—*C. S. G.*

" *Reason and Instinct.*"—Having read and re-read Mr. Atkinson's paper, intituled as above, I am also of opinion that " the subject has never been so lucidly treated before." Nevertheless, I must demur to the following passages:—" And therefore I expect to find, in the Bible, no information, properly so called, on geological matters, and none in Natural History, or Science, or Philosophy, in whatever department. Allusions and references to such topics I may and do expect, but conveyed, notwithstanding, in words uncharacterized by precision or scientific accuracy." Surely the writer, when he penned these lines, must have forgotten the words of Jeremiah, " Yea, the stork in the heaven knoweth her appointed times; and the turtle and the crane and the swallow observe the time of their coming." Now what says Montagu, in his 'Dictionary,' to which I beg to refer the author of " Reason and Instinct:"—*The Crane:* " It is said to fly remarkably high in its passage, even out of sight." And what says Temminck, in his 'Manuel d'Ornithologie,' ii. p. 557:—Grue Cendrée: " Mais le plus souvent les volées ne font que passer rapidement en se rappelant par un cri très sonore, qu'on entend lors même que la bande est élevée à perte de vue." But to return to Montagu; let us see what he has to say about the coming of the dove:— " The turtle visits the southern parts of England in the spring, and re-migrates the beginning of September." White's 'Natural History of Selborne,' p. 40 (note by editor):—" The turtle dove (*Columba turtur*, Linn.) is common enough in the southern counties of England, arriving in the end of April or beginning of May, and departing in September." With regard to the " coming" of the swallow, I may perhaps be excused for referring to my own notes, published in the 'Zoologist' (Zool. 4994), where it will be seen that, in the year 1839, the first swallow " came" on April 21st; in 1840, April 15th; 1841, April 27th; 1842, April 23rd; 1853, April 12th; 1854, April 15th. What is this but to " observe the time of their coming?" What naturalist, may I ask, in conclusion, could have told us more in four lines than the inspired writer?—*Henry W. Hadfield; Tunbridge, March* 7, 1857.

28 JY 57

To Entomologists, Authors, and Lovers of Natural History.

MR. JAMES FOXCROFT, the well-known and experienced Collector, begs to return his sincere thanks to the Trustees of the British Museum, the Nobility and Gentry, and also particularly to the Members of the Entomological Society, for the patronage he has received for a number of years as a Collector of British Lepidoptera and Coleoptera. He begs to state that he intends to visit SIERRA LEONE and the RIVER GAMBIA, leaving this country in November, 1857 (this will be after he returns from his Summer's Collecting in Scotland this year), and that he will remain in Africa during one, two or three Seasons, according to the encouragement he may receive. He will devote the whole of his time to searching for and collecting INSECTS OF ALL ORDERS. In order to enable him to meet the expense attending this journey, he is desirous of obtaining a limited number of Subscribers, at £5 per annum, for one year's collecting of either Lepidoptera or Coleoptera; for two seasons' Subscription £10 for each order; and for the three seasons, £15 for each Order. The money subscribed is to be paid to Mr. SAMUEL STEVENS, 24, Bloomsbury Street, London, as early as convenient, as Mr. FOXCROFT wishes to know how many Subscribers he can obtain before leaving England, in order that he may provide a sufficient number of boxes to contain each Subscriber's share separately, it being his intention, if he stops more than one season, to share the whole of the Insects annually. Each box will be sealed, directed with the Subscriber's name and address, and enclosed in one large packing-case addressed to Mr. SAMUEL STEVENS. Any Subscriber not feeling satisfied with what Insects he gets the first year for his Subscription may withdraw his name, as Mr. FOXCROFT's intention is only to take the first year's Subscription before starting, but will take names for the three years. All packing-cases or boxes that the insects are sent in are to be returned to Mrs. FOXCROFT. Any person wishing for further information can obtain it upon application to Mrs. FOXCROFT at 3, Union Yard, Oxford Street, near Orchard Street, London, West District.

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☞ This work has been carefully edited by EDWARD NEWMAN, and is particularly recommended to all who are engaged in Agriculture or Horticulture, to Book Societies, and to persons making presents to young people.

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CONTENTS.

BIRDS.—Birds of Andalusia, *Captain Charles W. Watkins*, 5604.

FISHES.—Occurrence of the Butterfly Blenny in Weymouth Bay, *William Thompson*, *Esq*., 5608. The Blackbellied Flounder, *Edmund Thomas Higgins, Esq*., 5608. Occurrence of the Little Gurnard on the Coast of Lancashire, *R. H. Meade, Esq*., *F.R.C.S*., 5608. The Carp at Charlottenburg, *Cuthbert Collingwood, M.D*., 5609.

MOLLUSKS.—Notes on the Oxfordshire Shells, *Rev. Alfred Merle Norman, B.A*., 5609. Observations on the Mollusca to be found on the Coasts of Cornwall, *William F. Templer, Esq*., 5613.

CRUSTACEA.—Notes on the Habits of the Nipper Crab, *Jonathan Couch, Esq., F.L.S*., 5615. Description of a New British Species of Shrimp, *John-Robert Kinahan*, *Esq*., 5617.

ARACHNIDA.—Sketch of a short Arachnological Excursion; List of new and rare British Arachnidans, *R. H. Meade, Esq., F.R.C.S*., 5618, 5624.

Note on the Centipede, *Captain John M. Jones*, 5627.

INSECTS.—On introducing Foreign Specimens into British Collections, *Henry Doubleday, Esq*., 5627. The new Noctua, *H. Cooke, Esq*., 5628. Captures of Lepidoptera recorded in the 'Intelligencer,' 5629. Hyponomeuta vigintipunctatus bred, *Rev. P. H. Newnham*, 5629. Narycia elegans a Lepidopterous Insect, *Edwar Newman*, 5629. Corrections of previous Errors, *C. R. Bree, Esq*., 5629; *Edwar Parfitt, Esq*., 5629. Further Note on the supposed new Œstrus, *Bracy Clark Esq., F.L.S*., 5630. New Helophilus, *Edward Newman*, 5631. Capture of a Fossorial Hymenopterous Insect, new to the British Fauna, in the North of England, *Thomas John Bold, Esq*., 5631. Rare British Coleoptera, *Edward Newman*, 5631. A List of the British Species of Aleocharidæ, *G. R. Waterhouse, Esq*., 5632. Note on the Dromius glabratus of British Cabinets, *T. Vernon Wollaston, Esq*., 5637.

PROCEEDINGS OF SOCIETIES.—Entomological Society, 5639. Zoological Society, 5646. Northern Entomological Society, 5647.

Reason and Instinct, *Captain H. W. Hadfield*, 5648.

Errata.—Two errors occur in the present number, which the reader will please correct with his pen:—

Page 5629, *line* 11 *from bottom*, *for* colos *read* collas
„ 5630, „ 13 „ *for* Trampa *read* Trompe: I believe it is the Norse, but not the Latin spelling of the word.

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